

Preface: REFSQ 2026 Doctoral Symposium

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1. Introduction

REFSQ 2026 hosts its renowned Doctoral Symposium (DS) for PhD students whose research relates to the field of Requirements Engineering (RE). The goals of the DS are:

- to provide PhD students with an opportunity to learn about the field and to get a deeper understanding of the work of their colleagues;
- to provide PhD students with a supportive and safe environment to present their plans and results;
- to provide all participating students with feedback from a panel of senior researchers in RE;
- to facilitate interaction between students and with established researchers in RE.

2. Submissions and Reviewing

We received seven submissions that were reviewed and discussed by the co-chairs. Based on relevance and suitability for the doctoral symposium and the REFSQ conference, five contributions were accepted and two conditionally accepted. In the end, six contributions were accepted.

3. Program

The doctoral symposium features (i) a keynote presentation, (ii) typical feedback sessions where the PhD candidates present their papers and receive feedback from senior RE researchers after in-depth discussions, and (iii) a panel.

3.1. Keynote

The keynote entitled **The Best is yet to Come (in your PhD)** is given by *Professor Xavier Franch* from the Polytechnic University of Catalonia.

Abstract. Pursuing a PhD is both exciting and demanding. Your supervisor is always busy with proposal writing and justifying expenses, deadlines seem to multiply overnight, your papers are unfairly rejected despite your best efforts (damned reviewer #2!), and the pressures of academic life rarely slow down. At times, the entire process can feel overwhelming and nonsense, especially when you meet your promotion colleagues, wearing fancy suits when they are not by the beach. How do you manage it all while continuing to move forward? This keynote addresses that very question. Drawing on practical experience, we will explore a set of core principles—strategic thinking, resilience, curiosity, adaptability, ... — that can help you navigate the everyday realities of doctoral research with greater confidence and direction. We seek actionable approaches that can shape how you organize your

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work, respond to setbacks, and make steady progress. The session will combine concrete examples, practical suggestions, and open discussion. You will be invited to contribute your own experiences and perspectives as we reflect on common challenges and effective strategies. Together, we will examine what it takes to sustain motivation, manage complexity, and recognize progress along the way.

Biography. Xavier Franch is a professor at the Polytechnic University of Catalonia (UPC), where he leads the Software and Services Engineering research group (GESSI, <https://gessi.upc.edu/en>). His research interests include requirements engineering, software engineering and AI, information systems engineering, empirical software engineering, and conceptual modeling. He received the IEEE RE Lifetime Service Award (2023) and Most Influential Paper awards at IEEE RE (2022) and REFSQ (2024). Xavier is a member of Academia and a full member and vice-chair of the International Requirements Engineering Board (IREB). He is a member of the Editorial Board of IST, JSS, Computing, and REEN, and member of the Steering Committees of CAiSE (as chair), REFSQ, ESEM, and RCIS. You can contact him at xavier.franch@upc.edu.

3.2. Accepted Papers

Six papers are presented at the doctoral symposium:

The paper **Exploring Requirements and Methods for Designing Sovereign Data Sharing**, authored by *Julia Pampus*, proposes a method that addresses the analysis and implementation of data sovereignty requirements. Data sovereignty refers to the capability of being entirely self-determined with regard to one's own data but with a focus on company data. The proposed research explores how to address data sovereignty during software development, particularly requirements engineering processes, to achieve industrial data sharing. The definition and classification of data sovereignty requirements streamline their implementation, allowing trust to form in the data sovereignty ecosystem.

The paper **Bidirectional Traceability between Datasets and ODDs: A Formal Approach for ML-Based Safety-Critical Development**, authored by *Martin Rabe*, proposes a methodology to determine whether a given dataset for a machine learning (ML) system is adequate for the desired operational design domain (ODD) in the context of the development of safety-critical ML-based systems. For example, an ODD for an automotive system may include the properties of the self-driving vehicle and other traffic participants, as well as environmental conditions. Existing standards lack ML-specific guidance and traditional safety-critical processes do not handle the challenges of ML systems. The proposed methodology aims for bidirectional traceability between datasets and ODDs. Specifically, the methodology introduces a novel dataset-specialization process, which allows to retain data points in the dataset that satisfy the ODD, thus reducing dataset size while preserving performance.

The paper **A Systematic Evaluation Framework for LLM-Generated Software Quality Artifacts**, authored by *Priscilla de Souza Silva*, proposes an approach to assess the quality of output generated by large language models (LLMs), specifically focusing on software quality assurance artifacts. A systematic literature review reveals that systematic approaches for evaluating LLM output are not yet readily available. A survey with software quality professionals aims to identify current practices, their used criteria and metrics, as well as evaluation challenges for LLM output. The proposed approach focuses on identifying evaluation criteria, dimensions, and metrics to yield a quality assessment that is standardized and less subjective.

The paper **Trustworthy Requirements Generation for EU AI Act Compliance: A Knowledge Graph Approach**, authored by *José Siqueira de Cerqueira*, proposes an open-source tool called TERE4AI (Trustworthy Ethical Requirements Engineering for AI) to generate requirements compliant with the EU AI Act given natural language descriptions. The tool uses (i) a knowledge graph that consists of 590 semantic alignments between the EU AI and AI HLEG ethical principles, (ii) a multi-agent pipeline following requirements engineering phases, and (iii) LLM-as-judge validation. Furthermore, the tool offers six strategies to enhance trustworthiness. The proposed tool fills a gap by systematically deriving actionable specifications from regulatory texts.

The paper **LLM-Supported Organizational Learning in IT Service Organizations within Open Innovation: A Requirements-Related Artifact Perspective**, authored by *Fryderyk Marek Pryjma*,

proposes a process for organizational learning in which LLMs are embedded. Furthermore, an LLM-based virtual assistant recommends learning activities. The goal of the proposed process is to improve project execution, IT service quality, and competitiveness for SMEs.

The paper **Towards Viewpoint-centric Artifact-based Regulatory Requirements Engineering for Compliance by Design**, authored by *Oleksandr Kosenkov*, proposes an approach called Artefact Model for Regulatory Requirements Engineering (AM4RRE) in support of compliance by design. The goal is to move from an ad-hoc process for ensuring compliance to regulations to a holistic and integrated approach. Development teams often employ an ad-hoc process, even though their organizations have introduced a standalone regulatory process at the organizational level. This work seeks to establish empirical knowledge about this process by creating a conceptual model of legal domain concepts and specification artefacts of the legal viewpoint, as well as the integration of this viewpoint into other engineering viewpoints. The approach puts forward an artefact-based approach, which does not rely on activities defined in a reference model but rather on the content of and relationships among specified artefacts.

3.3. Panel

The title of the panel is **LLMs and Dissertations: Advantages and Disadvantages** and features *Professor Anne Hess* from the Technical University of Applied Sciences Würzburg-Schweinfurt, *Professor Elda Paja* from IT University of Copenhagen, and the two co-chairs of the doctoral symposium, *Professor Gunter Mussbacher* from McGill University and *Professor Kurt Schneider* from Leibniz Universität Hannover, as panel members.

Biography. Anne Hess is a Professor of Social Software Engineering at the Faculty of Computer Science and Business Information Systems at the Technical University of Applied Sciences Würzburg-Schweinfurt. Her research focuses on systematically identifying and validating social and psychological factors that enhance the quality of software solutions and their development processes, with particular emphasis on team collaboration. Prior to her appointment in March 2024, Anne spent 17 years as a researcher at the Fraunhofer Institute for Experimental Software Engineering (IESE), specializing in User Experience and Requirements Engineering. She holds a Ph.D. in Computer Science from the Technical University of Kaiserslautern, where she conducted empirical studies on role-specific information needs in requirements specifications. Anne's extensive expertise in human-centered development of digital solutions and empirical software engineering informs her research in Social Software Engineering that is dedicated to developing methods for incorporating human needs, values, and user feedback to improve development processes and create software products that address social challenges.

Biography. Elda Paja is an Associate Professor in Software Engineering at the IT University of Copenhagen (ITU), affiliated with the Center for Information Security and Trust (CISAT). Her research focuses on security requirements engineering, human and social aspects of security and privacy in critical domains, empirical software engineering, including practices for AI/ML-based systems, and the integration of security into agile development. She obtained her PhD from the University of Trento, Italy, and has been serving the requirements engineering and conceptual modeling communities since 2011. She currently serves as Associate Editor for Data & Knowledge Engineering (DKE) and contributes to REFSQ and the IEEE International Requirements Engineering Conference (RE) in program committee and various organizational roles.

Biography. Gunter Mussbacher is an Associate Professor in the Department of Electrical and Computer Engineering at McGill University. His research interests are model-driven requirements engineering, software language engineering, LLM-based software engineering, next-generation reuse techniques, values in software engineering, and sustainability engineering. He co-edited all versions of the User Requirements Notation (URN) standard published by the International Telecommunications Union. He was General Co-Chair for ICT4S'23, Program Co-Chair for SAM'14 and RE'22, Finance Chair for RE'15, and Conference Chair for ICSE'19. He is an organizer and PC member for numerous other conferences and workshops in his research area including the Model-Driven Requirements Engineering workshop series.

Biography. Kurt Schneider is a full professor of software engineering at Leibniz Universität Hannover, Germany. He studied computer science in Erlangen, Germany, and received his Doctoral degree from the University of Stuttgart. From 1994-1996, Kurt Schneider held a Postdoc position at the Center for LifeLong Learning and Design (L3D) at the University of Colorado at Boulder, USA. In 1996, he joined Daimler Research and Technology in Ulm, Germany. Since 2003, he is a full professor in Hannover. He was Dean and Associate Dean, is currently Chair of the German Software Engineering SIG in the German Computer Science Society (GI). He was PC-Co Chair of REFSQ15 and of RE21, and General Chair fo RE23 in Hannover. Through a number of sabbaticals (in Milton-Keynes, Oulu, Karlskrona, Trento, and Gothenburg), he learned a lot about the different PhD systems in various countries.

4. Acknowledgments

For this particular doctoral symposium edition, we thank the authors for their submissions, presentations, and fruitful discussions during the event. We extend our gratitude to the keynote speaker and panel members who enriched the discussions at the doctoral symposium. We want to show our appreciation to the REFSQ 2026 organization team for their support during the whole organization of the event.

Declaration on Generative AI

The author(s) have not employed any Generative AI tools.