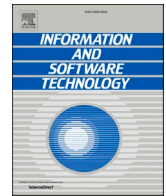




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Prof. Günther Ruhe's research contributions

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Sadly, Prof. Günther Ruhe passed away in the spring of 2023, but his research will influence researchers, practitioners and students in future years. He has contributed extensively to software engineering during his career. He is probably most well-known for his contributions to software release planning and requirements engineering. However, his contributions span over 40 years of research in different areas of software engineering.

Günther started his career in Leipzig, at that time in East Germany, studying mathematics and doing operations research. His early research focused on optimising networks and flows, including publishing a book on the topic [1] and a highly cited paper on spanning three problems [2]. The background has influenced his research in software engineering. He has used his mathematical background in, for example, his work on release planning. The background also influenced him to focus much of his research on empirical software engineering.

In the mid-90 s, Günther moved to Kaiserslautern in Germany, where he became the deputy director of the Fraunhofer Institute for Experimental Software Engineering Fh (IESE) and published his first works in software engineering. It includes research on requirements engineering [3] and metrics [4–6], primarily related to GQM (the Goal-Question-Metric paradigm). He also contributed to research in the area of learning organisations through publications and by running a conference on the topic [7].

In 2001, I met Günther for the first time; I was visiting IESE with some colleagues. By coincidence, there was a habilitation seminar scheduled for that week. It was Günther's habilitation seminar when receiving his habilitation from the University of Kaiserslautern. He had a very inspiring seminar, and I had an excellent first impression of him. This year, he also decided to move to Canada and the University of Calgary for a full professorship. This was the start of a very productive publication period. The publications include two highly cited publications from 2002 on decision support [8,9] and continued with influential works on release planning [10] and requirements selection [11] in 2003 and 2004. The article on release planning is his most highly cited paper. He also turned his interest to teaching and software project management [12].

Around this time, I started meeting Günther yearly at different

software engineering conferences. It was always great to chat and discuss the latest developments with him.

In 2005, Dr. Aübuke Aurum and I published a book titled “Engineering and Managing Software Requirements”. Given Günther's contribution to the area, he was invited to contribute with a chapter on decision support [13]. Günther continued his research on release planning and published three highly cited articles on the topic [14–16]. In 2007, he published four highly cited papers: one on COTS selection [17], one on release planning [18], one on effort estimation [19] and one on the cognitive decision-making process [20].

After being co-editor-in-chief for the Journal of Information and Software Technology since 2002, I became the sole editor-in-chief in 2008. It resulted in the task of recruiting three associate editors. Given Günther's research contributions, I had the pleasure of inviting him as one of them; fortunately, he accepted, and we started a long-lasting collaboration as editors for the journal.

In 2010, Günther published a book on software release planning with CRC Press [21], summarising all his knowledge on the topic based on previous research. In 2011, he got a US patent on release planning based on his research. Günther approached me in 2012, and we ended up meeting in Berlin. He had an idea that we should co-edit a book on project management since the traditional way of planned-based software project management seemed to get increasingly outdated given the move to more agile development and global software projects, to name a few areas. The book “Software Project Management in a Changing World” was published by Springer Verlag in 2014 [22]. He co-authored a systematic mapping study on software development documentation's costs, benefits, and quality [23] with several colleagues. It was a timely and vital area, given the changes in software development and its documentation over the years.

Furthermore, he co-authored a highly cited article on data-driven requirements engineering [24] and another paper on release practices for apps [25]. These articles illustrate how Günther continued to contribute to release planning and requirements engineering throughout his career and how he adapted to the changes in software development, such as data-driven development and the growth of software development for apps.

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Günther became editor-in-chief of the Journal of Information and Software Technology in 2016 when I stepped down. He ran the journal, supported by three associate editors until he passed away. His expertise, diligence, and friendly and professional attitude were essential assets for the journal for 15-plus years (2008–2023).

In 2017, he published two highly cited papers on requirements engineering [26,27]. He continued to contribute to research and published until he passed away. On average, he published 4–5 papers per year in the 2020–2022 period. In total, he has published more than 300 papers in international journals and conferences during his research career [28].

Günther was not only a productive and influential researcher and teacher; for me, he was also a dear international colleague and friend for over 20 years. I will truly miss him, and so do many others.

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Claes Wohlin: Writing – original draft.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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