

# Understanding Organizational Evolution of Software Projects

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## 1 Abstract

The role of the organizational structure of large-scale, distributed software projects and its relation to project success has been gaining considerable attention in the research and practice of software engineering. Research has shown that analyzing the organizational structure reveals a great extent of information relevant for project evolution and success, including quality, productivity, and delays. However, despite encouraging results, the knowledge on which organizational patterns are desirable and how we can elicit and improve them is often anecdotal, and implications thereof are transferred only rarely systematically.

In this talk, I will report on our ongoing endeavor of studying real-world software projects to provide deep insights into the nature and role of organizational structure for understanding and ensuring project success as well as to drive the development and evaluation of efficient software-engineering practices and tools. In the long run, we aim at answering a number of scientifically and practically relevant research questions, including how we can extract accurate information on a project's organizational structure, which organizational patterns arise in practice, how they vary over time, and how they relate to project success. Methodologically, we base our research on a rigorous network approach, which includes a representation of organizational structures, called a developer network, as well as a state-of-the-art network-analysis framework.

## 2 Bio

Prof. Dr. Sven Apel holds the Chair of Software Engineering at the University of Passau, Germany. The chair is funded by the esteemed Emmy-Noether and Heisenberg Programs of the German Research Foundation (DFG). Prof. Apel received his Ph.D. in Computer Science in 2007 from the University of Magdeburg, Germany. His research interests include software product lines, software analysis, optimization, and evolution, as well as empirical methods and the human factor in software engineering. He is the author or co-author of over a hundred peer-reviewed scientific publications. He serves regularly in program committees of top-ranked international conferences and he is a member of the editorial boards of IEEE Transactions on Software Engineering, IEEE Software, and Empirical Software Engineering. He was/will be program-committee co-chair of the 31st

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International Conference on Automated Software Engineering (ASE) and the 12th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE). His work has received two Best Paper Awards, one ACM SIGSOFT Distinguished Paper Award, as well as awards by the Ernst-Denert Foundation, the Karin-Witte Foundation, and the State of Saxony-Anhalt. Sven Apel is a member of the Young Academy of Europe.