

2nd Workshop on Innovative Software Engineering Education

Stephan Krusche
Technical University of Munich
krusche@in.tum.de

Marco Kuhrmann
Clausthal University of Technology
kuhrmann@acm.org

Kurt Schneider
Leibniz Universität Hannover
kurt.schneider@inf.uni-hannover.de

Abstract—This workshop aims at presenting and discussing innovative teaching approaches in software engineering education, which are highly relevant for teaching at universities, colleges, and in online courses. The workshop focuses on three main topics: (1) project courses with industry, (2) active learning in large courses, and (3) digital teaching and online courses.

I. INTRODUCTION

Software engineering instructors face more and more challenges due to the growing number of students. Motivating students to actively participate in a course is especially difficult in large classes. Even though practice-oriented and project-based training becomes increasingly important, such project courses in cooperation with industry come along with high effort. To compensate this situation, digital teaching, online courses, and other new teaching concepts complement the curriculum. They offer a wide range of possibilities for modern and attractive teaching, yet introduce further methodical, technical and organizational challenges to be considered by the teachers.

II. GOALS

The aim of the 2nd *Workshop on Innovative Software Engineering Education*¹ is to bring software engineering educators together to actively work and discuss the most important topics, challenges, and solution approaches. The goal is to create a platform for sharing experiences and identifying common topics of interest to foster collaboration. The workshop discusses which specific challenges have not yet been solved, so that an agenda for the improvement of software engineering education can be developed taking into account changing social, economic and political conditions.

The workshop provides an interactive forum with paper and poster presentations, and room for discussion. Authors give short talks about their contributions, which are followed by intensive discussions. Discussions are moderated by selected supporters, who prepare (critical) questions thus stimulating and guiding the discussion. The overall goal is to use the presented papers as starting point to enter the plenary discussion and shape the topics for interactive group discussions.

¹Co-located with the annual German Software Engineering conference (SE'2019) <https://se19.uni-stuttgart.de>, February 18–22, 2019, Stuttgart, Germany

III. CONTRIBUTIONS

The workshop received nine submissions on different topics in software engineering education of which six submissions (one full paper, four short papers, one poster) have been accepted and selected for presentation. The accepted papers address topics such as tool-support for automating parts of the education thus reducing effort, e.g., the automatic assessment of text exercises and tool support for face-to-face teaching. Other topics are on the use of *Essence* in a software development course and teaching wearable device development with a dedicated toolkit. Furthermore, code process metrics in programming education and interdisciplinary courses to teach agile systems engineering are discussed.

Marcus Deininger (HFT Stuttgart) starts the workshop with his keynote on approaches and experiences in higher education for software project practice. He discusses the goals of computer science education, which only partially meet the requirements of real-life software development. After the keynote, authors give short talks on their papers and posters to initiate the discussion. Furthermore, all authors present their work in a dedicated poster session, which allows for building small groups to identify and discuss topics of interest.

IV. CONCLUSION

The contributions to the workshop highlight innovative approaches in software engineering education and emphasize that education is an important research topic. This motivates for additional workshops in the future.

ACKNOWLEDGEMENTS

Many people contributed to the success of this workshop. We want to thank the authors and presenters of the accepted papers and the keynote speaker Marcus Deininger. We express our gratitude to the SE'19 conference organizers for supporting our workshop. We are glad that the following people (listed in alphabetic order) served the program committee, soliciting papers and writing peer reviews: Jürgen Börstler, Bernd Brügge, Birgit Demuth, Marlo Häring, Regina Hebig, Michael Hilton, Carsten Kleiner, Jürgen Münch, Dirk Riehle, Andreas Seitz, and Swapneel Sheth. In addition, we like to thank the two reviewers Mariana Avezum and Nadine von Frankenberg for their support.