

Preface

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Abstract

In the following text, we report the 8th Software Engineering Doctoral Symposium (SEDES), a satellite event of the 13th International Conference on the Quality of Information and Communications Technology (QUATIC).

The goal of the SEDES doctoral symposium is to provide Software Engineering PhD students with an environment in which they can present and discuss their work, receive feedback and suggestions from faculty and peers, and network with other researchers in the field. The goal of this symposium is aligned with the QUATIC conference, meant to bring, in this case, young researchers to discuss ongoing research about methods, techniques and tools for supporting quality approaches to ICT engineering and management. Besides being an opportunity to gather the community of researchers in Software Engineering, both in academic or industrial settings, SEDES also aims at fostering international cooperation.

1. Symposium

2020 is a year that is going to be remembered worldwide in the history books for unfortunate reasons. It was a year of complete disruption of the status quo. Humanity was threatened by the COVID-19 virus, and being caught by surprise, had to quickly adapt. The whole society had to make an incredible collective effort to keep some "normality" rolling. The educational and scientific communities were no exception. Science kept going, but in some areas, at a slower (possible) pace. Professors, Researchers, Students, science and educational/administrative staff, mostly confined or heavily constrained, managed to keep the activity. Unfortunately, most of the scientific events under the perspective of not happening had to become online. SEDES, a satellite event of QUATIC 2020, was no exception. It was initially planned to happen in Algarve on the 8th of September 2020, a beautiful region of the south of Portugal. Nevertheless, it managed to have a full day online session with very good participation of close to 50 people attendants and 5 selected papers presented.

SEDES has been along the years, since its first occurrence in 2004, a satellite event of QUATIC. Although initially designed to be a forum for students from Portuguese speaking countries, it became truly international in 2020. It counted with a varied and respectful set of 11 researchers as a scientific panel from 7 different countries (Austria, Brazil, Portugal, Spain, Sweden, Turkey, and the United Kingdom). The students were also original from 4 distinct countries (Belgium, Brazil, Iran, Portugal).

SEDES 2021 - 9th Software Engineering Doctoral Symposium


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 CEUR Workshop Proceedings (CEUR-WS.org)

SEDES hosted the invited keynote presented by Manuel Wimmer, Full Professor and Head of the Department of Business Informatics – Software Engineering at the Johannes Kepler University Linz, Austria. His communication had the title: "Design Science for Software and Systems Engineering". In this talk, the attendants could learn that Design Science is a research methodology that focuses specifically on the design and evaluation of artefacts in a particular context. Departing from the fact that in Software and Systems Engineering, solutions are created and evaluated concerning given requirements, it was discussed how Design Science can be used for researching this field. Several best practices and research methods were presented for conducting a successful PhD thesis in this area.

Despite the worldwide context, this year's quality of the papers was excellent, and the Best Paper Award was assigned by the program committee to the student Mehrdad Moradi (Supervised by Joachim Denil) with the communication entitled "Machine-Learning Assisted Model-Implemented Fault Injection".

Finally, we want to highlight that SEDES 2021 will be held again as a satellite event of QUATIC2021 in Algarve, hosted by the University of Algarve in Faro, again 8-11 September 2021. Due to the continuous emergency state due to the COVID-19 pandemic, it is planned to be a mixed online and in situ event.

2. Selected Papers

This edition of SEDES programme included the following communications:

- Sara Fernandes, Ademar Aguiar and André Restivo, "Live Software Inspection and Refactoring" - This work describes the effort to build a framework that increases the developer productivity by providing a live environment for code inspection (with code smells warnings) and refactoring recommendations.
- Mehrdad Moradi and Joachim Denil Machine-Learning Assisted Model-Implemented Fault Injection - This work presents ongoing work to use a Machine Learning algorithm to aid Fault Injection approaches e Cyber-physical Systems design, by efficiently injecting faults in the model under test automatically.
- Yon Vanommeslaeghe, Joachim Denil and Paul De Meulenaere Multi-Paradigm Design Space Exploration for Advanced Cyber-Physical Systems - This work proposes to use ontologies to derive design space exploration to solve smaller sub-problems over the different domains during cyber-physical systems design.
- Joost Mertens and Joachim Denil Digital Twins for Continuous Deployment in Model-Based Systems Engineering of Cyber-Physical Systems - The work is about using digital twins of the CPS development process as an application of DevOps in MBSE.
- Darliane Miranda and João Araujo A Framework for Integrating Web Accessibility Requirements in Agile Methodology - this work proposes the development and assessment of a framework to support the elicitation and analysis of web accessibility requirements, in an agile context. For that, it will extend systematically the accessibility goal-oriented model (the iStar framework).

3. Technical Program Committee

We would like to thank the international program committee who has helped us to process and review all submissions. The program committee consisted of the following researchers:

- Ana Paiva, University of Porto, Portugal
- Ana Regina Rocha, COPPE/UFRJ, Brazil
- Ayşe Tosun, Istanbul Technical University (ITU), Turkey
- Diego Perez-Palacin, Linnaeus University, Sweden
- Francisco Gortazar, Universidad Rey Juan Carlos, Spain
- João Araújo, Universidade NOVA de Lisboa, Portugal
- João Faria, FEUP and INESC TEC, Portugal
- Mario Piattini, Universidad de Castilla-La Mancha , Spain
- Manuel Wimmer, Johannes Kepler University Linz, Austria
- Pedro Guerreiro, Universidade do Algarve, Portugal
- Steve Counsell, Brunel University, United Kingdom

4. Symposium Website

Further information can be found at:

- <https://2020.quatic.org/co-located-events/phd-sedes>