

# Preface

The fifth instance of the International Summer School GTTSE, GTTSE 2015, was held in Braga, Portugal, August 23–29, 2015. For the first up to the fourth instance of GTTSE, the acronym was expanded to “Generative and Transformational Techniques in Software Engineering.” For the fifth instance, we adopted a broader scope also hinting at an adjusted vision; GTTSE now stands for “Grand Timely Topics in Software Engineering.” That is, historically, in the first four editions of GTTSE, the school series focused on generative and transformational techniques in software engineering. With the rise of the Software Language Engineering conference, the school series also covered that field. As of the fifth edition, a broader scope is applied to include additional areas of software engineering, e.g., software analysis, empirical research, modularity, and product lines, as reflected by the new expansion of the GTTSE acronym. The notion of *timely topics* is inspired by the ICSE conference, which, in some editions, features technical briefings as “a venue for communicating the current state of a timely topic related to software engineering.”

The biannual, week-long GTTSE summer school brings together PhD students, lecturers, as well as researchers and practitioners who are interested in timely topics in software engineering. Given the community behind GTTSE, the program does not cover software engineering in a perfectly balanced manner. Instead, there continues to be a focus on language engineering, programming languages, modeling, and software transformation.

The previous four instances of the school were held in 2005, 2007, 2009, and 2011 and their proceedings appeared as volumes 4143, 5235, 6491, and 7680 in Springer’s LNCS series. There was no summer school edition in 2013.

The GTTSE 2015 program offered ten tutorials (“briefings”), three hours of plenary time each, and a special tutorial on how to prepare for an interview in industry, one hour of plenary time. All of these tutorials were given by renowned researchers in the extended GTTSE community.

We adopted the notion of “briefing” in an effort to combine survey, research vision, and tutorial regarding an important subject. GTTSE 2015 covered probabilistic program analysis, ontologies in software engineering, empirical evaluation of programming and programming languages, model synchronization, management of software product families, “people analytics” in software development, DSLs in robotics, structured program-generation techniques, advanced aspects of software refactoring, and name binding in language implementation.

The program of the school also included a participants workshop (or students workshop) to which all students had been invited to submit an extended abstract beforehand. The Organizing Committee reviewed these extended abstracts, and invited 14 students to present their work at the workshop. The quality of this workshop was exceptional, and two awards were granted by a jury of senior researchers that was

formed at the school. Three of the participants responded to the call for contributions to the proceedings; two of the submissions were accepted through peer review.

The program of the school and additional resources remain available online.<sup>1</sup>

In this volume, you can find revised and extended lecture notes for eight tutorials or “briefings,” in the terminology of GTTSE 2015. Each of these lecture notes was reviewed by three members of the Scientific Committee of GTTSE 2015. You will also find two peer-reviewed participant contributions. Where necessary, two rounds of reviewing were executed.

We are grateful to our sponsors for their support, and to all lecturers and participants of the school for their enthusiasm and hard work in preparing excellent material for the school itself and for these proceedings. Thanks to their efforts the event was a great success, which we trust the reader finds reflected in this volume. Our gratitude is also due to all members of the Scientific Committee, who not only helped with the labor-intensive review process that substantially improved all contributions, but also sent their most suitable PhD students to the school.

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<sup>1</sup> <http://gttse.wikidot.com/2015>.

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