FTfJP 2025 – Formal Techniques for Judicious Programming Preface

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ABSTRACT The 27th Workshop on Formal Techniques for Judicious Programming (FTfJP 2025) was held in Bergen, Norway, on July 3, 2025, co-located with ECOOP 2025. FTfJP is an established workshop that has been organized alongside ECOOP since 1999. Formerly known as Formal Techniques for Java-like Programs, the workshop broadened its scope to encompass both practical and theoretical approaches for formal reasoning about correctness and security across all programming languages. The workshop welcomes both completed and ongoing research to stimulate discussion about the future of the field.

KEYWORDS Formal methods, Program verification, Programming languages, Semantics, Concurrency.

FTfJP 2025 received seven submissions, each evaluated in a single-blind peer review process by three members of the program committee. From the submitted papers, five were selected for presentation at the workshop, with four of these later expanded and refined for publication in the Journal of Object Technology (JOT) post-proceedings.

These proceedings open with an abstract of the invited keynote talk, which explores how software can be assured incrementally using gradual verification. This is followed by four peer-reviewed articles ordered by their submission numbers. The first article explores translation between temporal logic representations, specifically, a translation from FRET's LTL specifications to WEST's MLTL syntax. The second article provides an approach for modularly verifying the core of Rust's atomic reference counting algorithm against the (Y)C20 memory consistency model. The third article presents the first formalization and soundness proof for the aspect of VeriFast's logic that underpins its support for higher-order ghost code. The final article gives a brief presentation of how UTP can be used to define programming languages and their semantics, and discusses the use of reasonEq as a tool to support various formal approaches to concurrency.

I wish to thank the Steering Committee for inviting me to chair FTfJP 2025 and for their invaluable support; the invited speaker for his inspiring and outstanding keynote; the authors of all submitted papers for their contributions and dedication; and the members of the Program Committee and additional reviewers for their careful and constructive evaluations. I also wish to acknowledge EasyChair as the workshop's administration platform. Further information about this edition of FTfJP is available at https://2025.ecoop.org/home/FTfJP-2025.

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