

31st Euromicro Conference on Real-Time Systems

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Edited by
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Editor

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■ Preface

Message from the Chairs

Welcome to the **31st Euromicro Conference on Real-Time Systems (ECRTS 2019)** in Stuttgart, Germany. ECRTS is the premier European venue for presenting research into the broad area of real-time systems. Along with RTSS and RTAS, ECRTS ranks as one of the top three international conferences on this topic. ECRTS has been at the forefront of recent innovations in the real-time community such as artifact evaluation and open access proceedings.

For ECRTS 2019, we received **80 submissions** from 19 countries, 7 of which are outside Europe and represent 37% of the submitted papers. Each submission was reviewed by at least three members of the program committee – all active researchers and experts in their field – with the help of 77 external reviewers. The submissions were evaluated according to their contribution, originality, technical correctness and writing quality. The program committee then selected, at a physical meeting of the program committee in Paris, 27 of these submissions for publication in the proceedings and presentation at the conference.

From the 27 accepted papers, three have been recognized as **outstanding papers** by the program committee and will be presented in the final session. One of these three papers will be selected as **best paper** by a dedicated committee, based on both the contribution of the paper and the presentation at the conference.

In 2016, ECRTS was the first conference on real-time systems to introduce an **artifact evaluation**, with the aim to promote reproducibility of research results. An artifact evaluation committee reviews the artifacts submitted by the authors of accepted papers who choose to do so. In 2019, eight papers (30% of the accepted papers) are marked in the proceedings with a seal indicating that their artifact has passed the repeatability test.

In 2017, ECRTS was the first conference on real-time systems to introduce an **open access publication model**, while retaining the existing quality-control measures. The open access model uses LIPIcs – Leibniz International Proceedings in Informatics, a series of high-quality conference proceedings established in cooperation with Schloss Dagstuhl, Leibniz Center for Informatics. The conference serves the research community and the public best when results are accessible to the largest audience, i.e., the research community and the public. This year again, the proceedings will be accessible free of charge for everyone.

The workshops of ECRTS, that take place the day before the main conference starts, are a key feature of the event. They are widely acknowledged to be lively and useful to the community. ECRTS 2019 will host the following workshops:

- **CERTS** – 4th International Workshop on
Security and Dependability of Critical Embedded Real-Time Systems
- **OSPERT** – 15th International Workshop on
Operating Systems Platforms for Embedded Real-Time Applications
- **RTN** – 17th International Workshop on Real-Time Networks
- **WATERS** – 10th International Workshop on
Analysis Tools and Methodologies for Embedded and Real-time Systems
- **WCET** – 19th International Workshop on Worst-Case Execution Time Analysis

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ECRTS 2019 will start with a **keynote** by **Thomas Kropf**, president of corporate research and advance engineering at Bosch. A second keynote will be given by **David Monniaux**, senior researcher at CNRS and head of the PACSS team (Proofs and Code analysis for Safety and Security) at Verimag.

The **interactive session** of ECRTS 2019 is one of the most attractive events at the conference. It will feature:

- a **work-in-progress** session where novel ideas are introduced to the ECRTS audience;
- **journal-to-conference** presentations where work so far only published in journals can be presented to the conference audience;
- an overview of the **industrial challenges** discussed at the WATERS workshop to foster collaboration between academia and industry;
- an **industry pitch session** with industry speakers pitching their current and future problems related to real-time issues.

The interactive session will be directly followed by a poster session and reception where all participants can exchange ideas in a relaxed and friendly atmosphere. Submissions to the work-in-progress, journal-to-conference and industry pitch sessions have been evaluated separately by dedicated committees, and are not part of these published proceedings.

Thanks to our location on the premises of Bosch in Stuttgart this year, this edition of ECRTS will represent an excellent opportunity for researchers and practitioners from academia and industry to meet, interact and initiate collaborations. In addition to the special industry focus of the first day, participants will have the chance to look behind the scenes of the Bosch research campus on the second day of the conference during a guided tour, to get insights into the different fields of research conducted at Bosch.

ECRTS 2019 is the result of the hard work of many people, whose names are listed in the following pages. We are especially grateful for the contributions of the **program committee** and the **external reviewers** for carefully reviewing the submitted papers and helping us build the high-quality program of ECRTS 2019; the **artifact evaluation chairs** and the **artifact evaluators** who help this conference pave the way for reproducible research; the **work-in-progress and journal-to-conference chair** and the **workshop chairs** for their hard work in organizing these key moments of the conference; and Dagstuhl Publishing for their support in publishing these proceedings. Many thanks to the **organization committee** and **Robert Bosch GmbH** for their help with the logistics. We also thank **Sebastian Altmeyer** for sharing his experience as the ECRTS 2018 program chair, and **Gerhard Fohler** for his steady guidance and support as the Euromicro Real-Time Technical Committee Chair.

Last, but not least, we thank all the authors who submitted their work to ECRTS 2019. This conference would not exist without them and we are proud of the high quality and scientific relevance of this year's program. Let us now enjoy ECRTS 2019!

Arne Hamann and Dirk Ziegenbein
General Chairs, ECRTS 2019

Sophie Quinton
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WCET – Worst-Case Execution Time Analysis

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