

23rd International Symposium on Experimental Algorithms

SEA 2025, July 22–24, 2025, Venice, Italy

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LIPICs

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ACM Classification 2012

Theory of computation → Design and analysis of algorithms

ISBN 978-3-95977-375-1

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <https://www.dagstuhl.de/dagpub/978-3-95977-375-1>.

Publication date

July, 2025

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <https://portal.dnb.de>.

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Digital Object Identifier: 10.4230/LIPIcs.SEA.2025.0

ISBN 978-3-95977-375-1

ISSN 1868-8969

<https://www.dagstuhl.de/lipics>

LIPIcs – Leibniz International Proceedings in Informatics

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■ Preface

We are pleased to present the collection of papers accepted for presentation at the 23rd edition of the International Symposium on Experimental Algorithms (SEA 2025), held in Venice from July 22 to 24, 2025.

Until 2008, SEA was known as the *Workshop on Experimental Algorithms* (WEA). From 2009, it changed its name to the current *Symposium on Experimental Algorithms*. Curiously enough, as pointed out by Ruben Becker (SEA 2025's organizing committee chair), this SEA edition in Venice marks some kind of return to the origins for the field of algorithm engineering: the first documented edition of a workshop dedicated to algorithm engineering dates back to the *Workshop on Algorithm Engineering* (WAE, not to be confused with WEA), held in Venice in September 1997 and chaired by Giuseppe Italiano (now at LUISS, Rome, and permanent member of SEA's Advisory Board) and Salvatore Orlando (currently director of the Department of Environmental Sciences, Informatics and Statistics at the Ca' Foscari University of Venice).

SEA is an international forum for researchers in the area of the design, analysis, and experimental evaluation and engineering of algorithms, as well as in various aspects of computational optimization and its applications (telecommunications, transport, bioinformatics, cryptography, learning methods, information retrieval, and more). The symposium aims at attracting papers from both the Computer Science and the Operations Research/Mathematical Programming communities. Submissions to SEA are requested to present significant contributions supported by experimental evaluation, methodological issues in the design and interpretation of experiments, the use of heuristics and meta-heuristics, or application-driven case studies that deepen the understanding of the complexity of a problem. A main goal of SEA is also the creation of a friendly environment that can lead to and ease the establishment or strengthening of scientific collaborations and exchanges among attendees. For this reason, the symposium solicits high-quality original research papers (including significant work-in-progress) on any aspect of experimental algorithms.

Starting this year, SEA experimented a double-blind reviewing process. Each submission that was made to SEA 2025 was reviewed by at least three Program Committee members or external reviewers. After a careful peer review and evaluation process, 27 papers (out of 62 submitted) were accepted for presentation and for inclusion in the LIPIcs proceedings, according to the reviewers' recommendations. The acceptance rate was 43.5%. The scientific program of the symposium also includes presentations by three keynote speakers: Daniel Lemire (University of Quebec, Canada), Giulia Bernardini (University of Trieste, Italy), and Sebastiano Vigna (University of Milan, Italy). The selection of the best paper award was carried out by calling all PC members to vote on the nine accepted papers with highest ranking from the selection process. The outcome of this vote will be announced at the conference.

The day after SEA (July 25th), the satellite workshop *25 Years of Compressed Self-Indexes* took place at the same venue. The occasion of the workshop was the 25th anniversary of the following two important data structures that had a big impact both in the theory and practice of string processing algorithms and data structures: the FM-index (Paolo Ferragina and Giovanni Manzini, *Opportunistic Data Structures with Applications*, 41st Annual Symposium on Foundations of Computer Science), awarded with the Paris Kanellakis Award 2022, and the Compressed Suffix Array (Roberto Grossi and Jeffrey Scott Vitter, *Compressed Suffix Arrays*

and Suffix Trees with Applications to Text Indexing and String Matching, 32nd Annual ACM Symposium on Theory of Computing). The workshop featured invited talks by Giovanni Manzini and Roberto Grossi as well as contributed talks on related topics.

The local organizing committee of the 23th edition of SEA and of the satellite workshop was chaired by Ruben Becker and was formed by eight members of the research group on algorithms and data structures at the Ca' Foscari University of Venice. Ruben Becker also chaired the scientific program of the satellite workshop. We would like to thank the organizing committee for the hard work, Ca' Foscari University of Venice for providing the wonderful conference venue in Venice (*Auditorium Santa Margherita*, a historical theater from the IX century) free of charge, and SEA's Steering Committee (in particular, Ulrich Meyer) for the opportunity to host SEA in Venice and for all the support during its organization. We also express our gratitude to the members of the Program Committee as well as the external reviewers for their support, collaboration, and excellent work. Last but not least, we would like to thank our sponsor: the ERC Starting grant No. 101039208, *REGINDEX: Compressed Indexes for Regular Languages with Applications to Computational Pan-genomics*, which helped covering the expenses for the invited speakers thereby enriching the scientific program and keeping registration fees low.

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