

39th International Symposium on Theoretical Aspects of Computer Science

STACS 2022, March 15–18, 2022, Marseille, France
(Virtual Conference)

Edited by

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ACM Classification 2012

Mathematics of computing → Combinatorics; Mathematics of computing → Graph theory; Theory of computation → Formal languages and automata theory; Theory of computation → Logic; Theory of computation → Design and analysis of algorithms; Theory of computation → Computational complexity and cryptography; Theory of computation → Models of computation

ISBN 978-3-95977-222-8

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/978-3-95977-222-8>.

Publication date

March, 2022

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.STACS.2022.0

ISBN 978-3-95977-222-8

ISSN 1868-8969

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

LIPICs – Leibniz International Proceedings in Informatics

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■ Preface

The International Symposium on Theoretical Aspects of Computer Science (STACS) conference series is an internationally leading forum for original research on theoretical aspects of computer science. Typical areas are: algorithms and data structures, including: design of parallel, distributed, approximation, parameterized and randomised algorithms; analysis of algorithms and combinatorics of data structures; computational geometry, cryptography, algorithmic learning theory, algorithmic game theory; automata and formal languages, including: algebraic and categorical methods, coding theory; complexity and computability, including: computational and structural complexity theory, parameterised complexity, randomness in computation; logic in computer science, including: finite model theory, database theory, semantics, specification verification, rewriting and deduction; current challenges, for example: natural computing, quantum computing, mobile and net computing, computational social choice.

STACS is held alternately in France and in Germany. This year's conference (taking place virtually from March 15 to 18 in Marseille) is the 39th in the series. Previous meetings took place in Paris (1984), Saarbrücken (1985), Orsay (1986), Passau (1987), Bordeaux (1988), Paderborn (1989), Rouen (1990), Hamburg (1991), Cachan (1992), Würzburg (1993), Caen (1994), München (1995), Grenoble (1996), Lübeck (1997), Paris (1998), Trier (1999), Lille (2000), Dresden (2001), Antibes (2002), Berlin (2003), Montpellier (2004), Stuttgart (2005), Marseille (2006), Aachen (2007), Bordeaux (2008), Freiburg (2009), Nancy (2010), Dortmund (2011), Paris (2012), Kiel (2013), Lyon (2014), München (2015), Orléans (2016), Hannover (2017), Caen (2018), Berlin (2019), Montpellier (2020), and Saarbrücken (2021).

The interest in STACS has remained at a very high level over the past years. The STACS 2022 call for papers led to 203 submissions with authors from 37 countries. Each paper was assigned to three program committee members who, at their discretion, asked external reviewers for reports. For the eighth time within the STACS conference series, there was also a rebuttal period during which authors could submit remarks to the PC concerning the reviews of their papers. In addition, and for the second time, STACS 2022 employed a lightweight double-blind reviewing process: submissions should not reveal the identity of the authors in any way. However, it was still possible for authors to disseminate their ideas or draft versions of their paper as they normally would, for instance by posting drafts on the web or giving talks on their results. The committee selected 57 papers during a four-week electronic meeting held in November and December 2021. This means an acceptance rate around 28%. As co-chairs of the program committee, we would like to sincerely thank all its members and the 403 external reviewers for their valuable work. In particular, there were intense and interesting discussions inside the PC committee. The very high quality of the submissions made the selection an extremely difficult task.

We would like to express our thanks to the four invited speakers: Marie Albenque (LIX, École Polytechnique, France), Maria-Florina Balcan (Carnegie Mellon University, USA), Amina Doumane (CNRS, LIP, ENS Lyon, France), and Fabian Kuhn (University of Freiburg, Germany). STACS 2020 in Montpellier was one of the last conferences that took place physically before the Covid-19 lockdown happened the next week. STACS 2021 took place as a virtual conference as many other conferences before, with pre-recorded videos, short online presentations and discussions, and online social events. We were hoping that STACS 2022 would be proposed as a hybrid conference, with a major proportion of the participants on-site in Marseille. However, the rise of the Covid-19 Omicron variant of the pandemic made this



possibility less and less likely. In January 2022, after asking the opinion of the authors, it appeared that at most 30% of the participants still wanted to participate on-site. With the big proportion of online talks that this implies, the experience of on-site participants would be strongly deteriorated. Thus, to improve the quality of the event for all participants, it was decided to turn STACS 2022 as an online event. We hope that the pandemic situation will evolve in such a way that the next STACS events will be able to have an on-site component.

We thank Michael Wagner from the LIPIcs team for assisting us in the publication process and the final production of the proceedings. These proceedings contain extended abstracts of the accepted contributions and abstracts of the invited talks. The authors retain their rights and make their work available under a Creative Commons license. The proceedings are published electronically by Schloss Dagstuhl – Leibniz-Center for Informatics within their LIPIcs series. Finally we would like to thank Aix-Marseille University, Laboratoire d’Informatique et Systèmes, Institut Archimède, and CNRS for their support.

Marseille, March 2022

Petra Berenbrink and Benjamin Monmege

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Tamon Stephen	Arne Storjohann	Dirk Sudholt
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Marek Szykuła	Amnon Ta-Shma	Navid Talebanfard
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Sébastien Tavenas	Stefano Tessaro	Johan Thapper
Mautor Thierry	Carsten Thomassen	Csaba Toth
Patrick Totzke	Chris Umans	Seeun William Umboh
Jalaj Upadhyay	Henning Urbat	Jan van den Brand
Erik Jan van Leeuwen	Johan M. M. Van Rooij	Rob van Stee
Wessel van Woerden	Alexandre Vigny	Jevgēnijs Vihrovs
Ben Lee Volk	Ulrike von Luxburg	Tjark Vredeveld
Magnus Wahlström	Matthias Walter	Stefan Walzer
Justin Ward	Rachel Ward	Julian Wargalla
Daniel Warner	Dimitri Watel	Julian Werthmann
Andreas Wiese	Guohua Wu	Yinzhan Xu
Reem Yassawi	Matteo Zavatteri	Meirav Zehavi
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