

# 22nd International Symposium on Experimental Algorithms

SEA 2024, July 23-26, 2024, Vienna, Austria

Edited by

Leo Liberti



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Dedicated to the memory of Nick Higham.



## ■ Contents

Preface	
<i>Leo Liberti</i> .....	0:ix
Permanent SEA committees	
.....	0:xi
Organization of SEA 2024	
.....	0:xiii–0:xiv
Authors	
.....	0:xv–0:xviii

## Regular Papers

Move-r: Optimizing the r-index	
<i>Nico Bertram, Johannes Fischer, and Lukas Nalbach</i> .....	1:1–1:19
Engineering Zuffix Arrays	
<i>Paolo Boldi, Stefano Marchini, and Sebastiano Vigna</i> .....	2:1–2:18
Practical Minimum Path Cover	
<i>Manuel Cáceres, Brendan Mumey, Santeri Toivonen, and Alexandru I. Tomescu</i> .	3:1–3:19
Separator Based Data Reduction for the Maximum Cut Problem	
<i>Jonas Charfreitag, Christine Dahn, Michael Kaibel, Philip Mayer, Petra Mutzel, and Lukas Schürmann</i> .....	4:1–4:21
Buffered Streaming Edge Partitioning	
<i>Adil Chhabra, Marcelo Fonseca Faraj, Christian Schulz, and Daniel Seemaier</i> .....	5:1–5:21
Faster Treewidth-Based Approximations for Wiener Index	
<i>Giovanna Kobus Conrado, Amir Kafshdar Goharshady, Pavel Hudec, Pingjiang Li, and Harshit Jitendra Motwani</i> .....	6:1–6:19
Local Search k-means++ with Foresight	
<i>Theo Conrads, Lukas Drexler, Joshua Könen, Daniel R. Schmidt, and Melanie Schmidt</i> .....	7:1–7:20
Practical Computation of Graph VC-Dimension	
<i>David Coudert, Mónica Csikós, Guillaume Ducoffe, and Laurent Viennot</i> .....	8:1–8:20
Top- <i>k</i> Frequent Patterns in Streams and Parameterized-Space LZ Compression	
<i>Patrick Dinklage, Johannes Fischer, and Nicola Prezza</i> .....	9:1–9:20
Taxonomic Classification with Maximal Exact Matches in KATKA Kernels and Minimizer Digests	
<i>Dominika Draesslerová, Omar Ahmed, Travis Gagie, Jan Holub, Ben Langmead, Giovanni Manzini, and Gonzalo Navarro</i> .....	10:1–10:13
Engineering Weighted Connectivity Augmentation Algorithms	
<i>Marcelo Fonseca Faraj, Ernestine Großmann, Felix Joos, Thomas Möller, and Christian Schulz</i> .....	11:1–11:22

22nd International Symposium on Experimental Algorithms (SEA 2024).

Editor: Leo Liberti



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Streaming Matching and Edge Cover in Practice <i>S M Ferdous, Alex Pothen, and Mahantesh Halappanavar</i> .....	12:1–12:22
3/2-Dual Approximation for CPU/GPU Scheduling <i>Bernhard Sebastian Germann, Klaus Jansen, Felix Ohnesorge, and Malte Tutas</i> ..	13:1–13:18
Accelerating ILP Solvers for Minimum Flow Decompositions Through Search Space and Dimensionality Reductions <i>Andreas Grigorjew, Fernando H. C. Dias, Andrea Cracco, Romeo Rizzi, and Alexandru I. Tomescu</i> .....	14:1–14:19
Determining Fixed-Length Paths in Directed and Undirected Edge-Weighted Graphs <i>Daniel Hambly, Rhyd Lewis, and Pdraig Corcoran</i> .....	15:1–15:11
Solving the Optimal Experiment Design Problem with Mixed-Integer Convex Methods <i>Deborah Hendrych, Mathieu Besançon, and Sebastian Pokutta</i> .....	16:1–16:22
Barcode Selection and Layout Optimization in Spatial Transcriptomics <i>Frederik L. Jatzkowski, Antonia Schmidt, Robert Mank, Steffen Schüller, and Matthias Müller-Hannemann</i> .....	17:1–17:19
Experimental Analysis of LP Scaling Methods Based on Circuit Imbalance Minimization <i>Jakub Komárek and Martin Koutecký</i> .....	18:1–18:21
Algorithms for Gradual Polyline Simplification <i>Nick Krumbholz, Stefan Funke, Peter Schäfer, and Sabine Storandt</i> .....	19:1–19:18
Targeted Branching for the Maximum Independent Set Problem Using Graph Neural Networks <i>Kenneth Langedal, Demian Hesse, and Peter Sanders</i> .....	20:1–20:21
SPIDER: Improved Succinct Rank and Select Performance <i>Matthew D. Laws, Jocelyn Bliven, Kit Conklin, Elyes Laalai, Samuel McCauley, and Zach S. Sturdevant</i> .....	21:1–21:18
Efficient Computation of Topological Integral Transforms <i>Vadim Lebovici, Steve Oudot, and Hugo Passe</i> .....	22:1–22:19
Engineering A* Search for the Flip Distance of Plane Triangulations <i>Philip Mayer and Petra Mutzel</i> .....	23:1–23:20
Efficient Exact Online String Matching Through Linked Weak Factors <i>Matthew N. Palmer, Simone Faro, and Stefano Scafiti</i> .....	24:1–24:14
Convex Relaxation for the Generalized Maximum-Entropy Sampling Problem <i>Gabriel Ponte, Marcia Fampa, and Jon Lee</i> .....	25:1–25:14
Scalable Hard Instances for Independent Set Reconfiguration <i>Takehide Soh, Takumu Watanabe, Jun Kawahara, Akira Suzuki, and Takehiro Ito</i>	26:1–26:15
Improved Cut Strategy for Tensor Network Contraction Orders <i>Christoph Staudt, Mark Blacher, Julien Klaus, Farin Lippmann, and Joachim Giesen</i> .....	27:1–27:19
Finding the Minimum Cost Acceptable Element in a Sorted Matrix <i>Sebastián Urrutia and Vinicius dos Santos</i> .....	28:1–28:14



## ■ Preface

This volume contains the papers accepted for presentation at the 22nd edition of the International Symposium on Experimental Algorithms (SEA 2024), held in Vienna from 23rd to 26th July 2024.

SEA, previously known as the Workshop of Experimental Algorithms (WEA), is an international forum for researchers in the area of design, analysis, engineering, and experimental evaluation algorithms, as well as in various aspects of computational optimization and applications. The symposium aims at attracting papers from both the Computer Science and the Operations Research & Mathematical Programming communities. Submissions to SEA are required to present significant contributions supported by experimental evaluation, methodological advances in the design and interpretation of experiments, scientifically grounded use cases of heuristics and meta-heuristics, application-driven case studies that deepen the understanding of a given problem. The main goal of SEA is the creation of a friendly environment leading to the establishment or strengthening of scientific collaborations and exchanges among participants.

Starting this year, the SEA Steering Committee (SC) updated the list of “topics of interest” of the symposium to include cryptography and security, databases, and natural language processing. No-one in the SC expected this change to immediately yield results, obviously: and, indeed, this year’s scientific program hardly reflects the update, aside from a couple of submissions that could not be accepted for presentation. But I think it is important to emphasize this change as something forward-looking. Another change was proposed by SC members as the organization of SEA24 was already underway: a double-blind reviewing process. Although I am favorable to this change, I proposed that it should be made effective in a next edition of SEA, since I had already started the PC activities with the classic model. It is likely that this change will be carried out already with SEA25.

Each submission to SEA 2024 was reviewed by at least three Program Committee (PC) members or their chosen reviewers. After a careful peer review and evaluation process, 28 papers out of 60 submissions were accepted for presentation at the symposium and inclusion in this LIPIcs proceedings volume. The selection rate was 46.7%. The scientific program of the symposium originally contained three plenary lectures: Nick Higham, Pascal Schweitzer, and Yllka Velaj. Alas, one of these speakers was lost to a fatal illness: this volume is therefore dedicated to Nick’s memory. The selection of the best paper was carried out by calling all PC members to vote on the five accepted papers with highest ranking from the selection process (any PC member who was a co-author of these five highest-ranking paper was barred from voting). The outcome of this vote will be announced at the conference.

The local organizing committee of this twenty-second edition of SEA was chaired by Kathrin Hanauer of the *Theory and Application of Algorithms* research group at Vienna University. Special thanks go to the members of the organizing committee: Sophia Heck, Lara Ost, and Maximilian Vötsch. Thanks are also due to *Universität Wien* and the *Fakultät für Informatik* for their support with organizing and hosting the conference. All of the SEA committees are extremely grateful to our sponsors, the Vienna Convention Bureau and Google Research, who helped SEA cover part of the expenses and keep student registration fees affordable.

In the last several years, SEA symposia have always invited the authors of a selection of the accepted papers to submit an extended version of their work to a special issue of the *ACM Journal of Experimental Algorithmics* dedicated to SEA. This journal has now ceased



publication, so the SC strategy for this edition of SEA is tentative. On the one hand, the authors of a few selected papers accepted at SEA 2024 shall receive an invitation to submit an extended version of their contribution to the journal *Algorithmica*. On the other hand, if there is sufficient interest, I will look for a dedicated post-proceedings special issue in another journal.

I wish to express my gratitude to a number of people who have helped me considerably in my PC Chair role: first and foremost, all of the members of the PC, and their chosen sub-reviewers. Secondly, the chair of the local organizing committee Kathrin Hanauer for a seamless integration of the two main committees for SEA 2024 (PC and local). Third, some SC members who had previously organized some editions of SEA, and who gave me extremely valuable advice. Lastly, I am grateful to the SC Chair, Ulrich Meyer, for answering numerous questions timely, precisely, helpfully, and with an extremely supporting and trusting attitude.

As a final comment, I can now confess to having read Ulrich's initial email very fast (this email bore the invitation to chair the PC of SEA 2024). I read it so fast, in fact, that I had understood it as an invitation to *join* rather than *chair* the PC. I therefore quickly answered "count me in" and got back to work. Ulrich's subsequent answer exuded an amount of relief and enthusiasm that sounded suspiciously excessive. Only then did I go back to his invitation, and realized what I had gotten myself into. At the end of the process, I must say that this was a serendipitous misunderstanding: I was very happy to chair this committee, and to help SEA 2024 achieve an interesting scientific program.

LEO LIBERTI  
*Palaiseau, France*

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