

Publikacje: Instytut Informatyki Uniwersytetu Wrocławskiego, rok 2022

1. Apers Simon, Efron Yuval, **Gawrychowski Paweł**, Lee Troy, Mukhopadhyay Sagnik, Nanongkai Danupon

Cut query algorithms with star contraction

in: 2022 IEEE 63rd Annual Symposium on Foundations of Computer Science, FOCS 2022, Denver, Colorado, 31 October – 3 November 2022, Proceedings / red.Lisa O’Conner

Institute of Electrical and Electronics Engineers (IEEE), Piscataway (NJ), 2022, 507-518.

2. Apers Simon, **Gawrychowski Paweł**, Lee Troy

Finding the KT partition of a weighted graph in near-linear time

in: Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2022) / red.Amit Chakrabarti, Chaitanya Swamy

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 32:1-32:14.

3. Avin Chen, **Bieńkowski Marcin**, Salem Iosif, Sama Robert, Schmid Stefan, Schmidt Paweł

Deterministic self-adjusting tree networks using rotor walks

in: 2022 IEEE 42nd International Conference on Distributed Computing Systems (ICDCS) / red.Giovanni Pau

Institute of Electrical and Electronics Engineers (IEEE), Piscataway (NJ), 2022, 67-77.

4. Balogh János, Dósa György, Epstein Leah, **Jeż Łukasz**

Lower bounds on the performance of online algorithms for relaxed packing problems

in: Combinatorial Algorithms : 33rd International Workshop, IWOCA 2022, Trier, Germany, June 7-9, 2022, Proceedings / red.Cristina Bazgan, Henning Fernau

Springer, Cham, 2022, 101-113.

5. Bar-Natan Aviv, Charalampopoulos Panagiotis, **Gawrychowski Paweł**, Mozes Shay, Weimann Oren
Fault-tolerant distance labeling for planar graphs
Theoretical Computer Science, 2022, **918**, 48-59.

6. *Bednarczyk Bartosz*, Demri Stéphane
Why does propositional quantification make modal and temporal logics on trees robustly hard?
Logical Methods in Computer Science, 2022, **18**, 5:1-5:46.

7. *Bednarczyk Bartosz*, Fiuk Oskar
Presburger Büchi tree automata with applications to logics with expressive counting
in: Logic, Language, Information, and Computation : 28th International Workshop, WoLLIC 2022, Iași, Romania, September 20–23, 2022, Proceedings / red.Agata Ciabatonni, Elaine Pimentel, Ruy J. G. B. de Queiroz
Springer, Cham, 2022, 295–308.

8. *Bednarczyk Bartosz*, Jaakkola Reijo
Towards a model theory of ordered logics: expressivity and interpolation
in: 47th International Symposium on Mathematical Foundations of Computer Science (MFCS 2022) / red.Stefan Szeider, Robert Ganian, Alexandra Silva
Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 15:1-15:14.

9. *Bednarczyk Bartosz*, **Kieroński Emanuel**
Finite entailment of local queries in the Z family of description logics
in: Proceedings of the 36th AAAI Conference on Artificial Intelligence, no.5 / red.Katia Sycara, Vasant Honavar, Matthijs Spaan
AAAI Press, Palo Alto, 2022, 5487-5494.

10. *Bednarczyk Bartosz*, Rudolph Sebastian

The Price of Selfishness: Conjunctive Query Entailment for ALC Self Is 2EXPTIME-Hard

in: Proceedings of the 36th AAAI Conference on Artificial Intelligence, no.5 / red.Katia Sycara, Vasant Honavar, Matthijs Spaan

AAAI Press, Palo Alto, 2022, 5495-5502.

11. *Bednarczyk Bartosz*, Urbańczyk Mateusz

Comonadic semantics for description logic games

CEUR Workshop Proceedings, 2022, **3263**, 5:1-5:12.

12. Bernardini Giulia, **Gawrychowski Paweł**, Pisanti Nadia, Pissis Solon, Rosone Giovanna

Elastic-degenerate string matching via fast matrix multiplication

SIAM Journal on Computing, 2022, **51**, 549-576.

13. **Bieńkowski Marcin**, **Bohm Martin**, **Byrka Jarosław**, Marcinkowski Jan

Online facility location with linear delay

in: Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2022) / red.Amit Chakrabarti, Chaitanya Swamy

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 45:1-45:17.

14. **Biernacka Małgorzata**, **Biernacki Dariusz**, Lenglet Sergueï, Schmitt Alan

Non-deterministic abstract machines

in: 33rd International Conference on Concurrency Theory (CONCUR 2022) / red.Bartek Klin, Sławomir Lasota, Anca Muscholl

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 7:1-7:24.

15. **Biernacka Malgorzata, Charatonik Witold, Drab Tomasz Jan**
The zoo of lambda-calculus reduction strategies, and Coq
in: 13th International Conference on Interactive Theorem Proving (ITP 2022) /
red. June Andronick, Leonardo de Moura
Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 7:1-7:19.

16. **Biernacka Malgorzata, Charatonik Witold, Drab Tomasz Jan**
A simple and efficient implementation of strong call by need by an abstract machine
Proceedings of the ACM on Programming Languages, 2022, **6**, 109–136.

17. **Bohm Martin, Hoeksma Ruben, Megow Nicole, Nölke Lukas, Simon Bertrand**
On hop-constrained Steiner trees in tree-like metrics
SIAM Journal on Discrete Mathematics, 2022, **36**, 1249-1273.

18. **Bohm Martin, Megow Nicole, Schlöter Jens**
Throughput scheduling with equal additive laxity
Operations Research Letters, 2022, **50**, 463-469.

19. **Bohm Martin, Simon Bertrand**
Discovering and certifying lower bounds for the online bin stretching problem
Theoretical Computer Science, 2022, **938**, 1-15.

20. Bożejko Wojciech, **Rajba Paweł, Wodecki Mieczysław**
Robustness on diverse data disturbance levels of tabu search for a single machine
scheduling
in: New Advances in Dependability of Networks and Systems : Proceedings of the
Seventeenth International Conference on Dependability of Computer Systems
DepCoS-RELCOMEX, June 27 – July 1, 2022, Wrocław, Poland / red. Wojciech
Zamojski, Jacek Mazurkiewicz, Jarosław Sugier, Tomasz Walkowiak
Springer, Cham, 2022, 1-10.

21. *Buszka Maciej Benedykt*, **Biernacki Dariusz**

Automating the functional correspondence between higher-order evaluators and abstract machines

in: Logic-Based Program Synthesis and Transformation : 31st International Symposium, LOPSTR 2021, Tallinn, Estonia, September 7–8, 2021, Proceedings / red.Emanuele De Angelis, Wim Vanhoof

Springer, Cham, 2022, 38–59.

22. Charalampopoulos Panagiotis, **Gawrychowski Paweł**, Mozes Shay, Weimann Oren

On the hardness of computing the edit distance of shallow trees

in: String Processing and Information Retrieval : 29th International Symposium, SPIRE 2022, Concepción, Chile, November 8–10, 2022, Proceedings / red.Diego Arroyuelo, Barbara Poblete

Springer, Cham, 2022, 290–302.

23. Cholvi Vicent, **Garncarek Paweł**, **Jurdziński Tomasz**, Kowalski Dariusz

Stable routing scheduling algorithms in multi-hop wireless networks

Theoretical Computer Science, 2022, **921**, 20-35.

24. Clifford Raphaël, **Gawrychowski Paweł**, Kociumaka Tomasz, Martin Daniel P., **Uznański Przemysław**

The dynamic k-mismatch problem

in: 33rd Annual Symposium on Combinatorial Pattern Matching (CPM 2022) / red.Hideo Bannai, Jan Holub

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 18:1-18:15.

25. Colcombet Thomas, Fijalkow Nathanaël, **Gawrychowski Paweł**, Ohlmann Pierre

The theory of universal graphs for infinite duration games

Logical Methods in Computer Science, 2022, **18**, 29:1-29:47.

26. Cuervo Santiago, Grabias Maciej, **Chorowski Jan**, Ciesielski Grzegorz, Łańcucki Adrian, **Rychlikowski Paweł**, Marxer Ricard
- Contrastive prediction strategies for unsupervised segmentation and categorization of phonemes and words
- in: ICASSP 2022 - 2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) / red.Haizhou Li
- Institute of Electrical and Electronics Engineers (IEEE), [S.l.], 2022, 3189-3193.
27. Czyzowicz Jurek, Gąsieniec Leszek, Kosowski Adrian, Kranakis Evangelos, Spirakis Paul, **Uznański Przemysław**
- On convergence and threshold properties of discrete Lotka-Volterra population protocols
- Journal of Computer and System Sciences, 2022, **130**, 1-25.
28. De Marco Gianluca, Kowalski Dariusz, **Stachowiak Grzegorz**
- Contention resolution without collision detection : constant throughput and logarithmic energy
- in: 36th International Symposium on Distributed Computing (DISC 2022) / red.Christian Scheideler
- Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 17:1-17:21.
29. *Dudek Bartłomiej*, **Gawrychowski Paweł**, Gourdel Garance, Starikovskaya Tatiana
- Streaming regular expression membership and pattern matching
- in: Proceedings of the 2022 annual ACM-SIAM Symposium on discrete algorithms (SODA) / red.Joseph Naor, Niv Buchbinder
- Society for Industrial and Applied Mathematics (SIAM), Philadelphia, 2022, 670-694.
30. Figueira Diego, **Jeż Artur**, Lin Anthony W.
- Data path queries over embedded graph databases
- in: Proceedings of the 41st ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems / red.Pablo Barcelo, Leonid Libkin
- Association for Computing Machinery (ACM), New York, 2022, 189-201.

31. Ganardi Moses, **Gawrychowski Pawel**

Pattern matching on grammar-compressed strings in linear time

in: Proceedings of the 2022 annual ACM-SIAM Symposium on discrete algorithms (SODA) / red. Joseph Naor, Niv Buchbinder

Society for Industrial and Applied Mathematics (SIAM), Philadelphia, 2022, 2833-2846.

32. **Gawrychowski Pawel**, *Janczewski Wojciech*

Simpler adjacency labeling for planar graphs with B-trees

in: Symposium on simplicity in algorithms (SOSA) / red. Karl Bringmann, Timothy Chan

Society for Industrial and Applied Mathematics (SIAM), Philadelphia, 2022, 24-36.

33. **Gawrychowski Pawel**, Manea Florin, Serafin Radosław

Fast and longest rollercoasters

Algorithmica, 2022, **84**, 1081-1106.

34. **Gawrychowski Pawel**, Manea Florin, Siemer Stefan

Matching patterns with variables under edit distance

in: String Processing and Information Retrieval : 29th International Symposium, SPIRE 2022, Concepción, Chile, November 8–10, 2022, Proceedings / red. Diego Arroyuelo, Barbara Poblete

Springer, Cham, 2022, 275-289.

35. **Gawrychowski Pawel**, *Pokorski Karol*

Sublinear dynamic interval scheduling (on one or multiple machines)

in: 49th International Colloquium on Automata, Languages, and Programming (ICALP 2022) / red. Mikołaj Bojańczyk, Emanuela Merelli, David P. Woodruff

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 67:1-67:19.

36. **Gawrychowski Paweł, Rzepecki Mateusz**

Faster exponential algorithm for permutation pattern matching

in: Symposium on simplicity in algorithms (SOSA) / red.Karl Bringmann, Timothy Chan

Society for Industrial and Applied Mathematics (SIAM), Philadelphia, 2022, 279-284.

37. **Gawrychowski Paweł, Starikovskaya Tatiana**

Streaming dictionary matching with mismatches

Algorithmica, 2022, **84**, 896-916.

38. Gąsieniec Leszek, Spirakis Paul, **Stachowiak Grzegorz**

Brief announcement: new clocks, fast line formation and self-replication population protocol

in: 36th International Symposium on Distributed Computing (DISC 2022) / red.Christian Scheideler

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 44:1-44:3.

39. Gąsieniec Leszek, **Stachowiak Grzegorz**

Time, clocks and efficiency of population protocols (Invited Paper)

in: 18th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT 2022) / red.Artur Czumaj, Qin Xin

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 2:1-2:2.

40. Groz Benoît, Lemay Aurélien, Staworko Sławomir, **Wieczorek Piotr**

Inference of shape graphs for graph databases

in: 25th International Conference on Database Theory (ICDT 2022) / red.Dan Olteanu, Nils Vortmeier

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 14:1-14:20.

41. Jagiełło Adrianna, **Lisowski Piotr Kamil, Urban Roman**

Type-2 fuzzy sets and Newton's fuzzy potential in an algorithm of classification objects of a conceptual space

Journal of Logic, Language and Information, 2022, **31**, 389-408.

42. **Jeż Artur**

Word equations in non-deterministic linear space

Journal of Computer and System Sciences, 2022, **123**, 122-142.

43. Jung Jean Christoph, Lutz Carsten, **Marcinkowski Jerzy**

Conservative extensions for existential rules

in: Proceedings of the 19th International Conference on Principles of Knowledge Representation and Reasoning, Haifa, Israel. July 31–August 5, 2022 (KR 2022) / red. Gabriele Kern-Isberner, Gerhard Lakemeyer, Thomas Meyer

International Joint Conferences on Artificial Intelligence, [b.m.w.], 2022, 195–204.

44. **Kieroński Emanuel, Kuusisto Antti**

One-dimensional fragment over words and trees

Journal of Logic and Computation, 2022, **32**, 902–941.

45. Kowalczyk Dominik, Kowalski Jakub, Obrzut Hubert, Maras Michał, Kosakowski Szymon, Miernik Radosław

Developing a successful Bomberman agent

in: Proceedings of the 14th International Conference on Agents and Artificial Intelligence, Vol. 2 / red. Ana Paula Rocha, Luc Steels, Jaap van den Herik

SCITEPRESS, Setúbal, 2022, 335-344.

46. **Kowalski Jakub**, Mika Maksymilian, Pawlik Wojciech, Sutowicz Jakub, **Szykuła Marek**, Winands Mark H.M.

Split moves for Monte-Carlo tree search

in: Proceedings of the 36th AAAI Conference on Artificial Intelligence, no. 9 / red.Katia Sycara, Vasant Honavar, Matthijs Spaan

AAAI Press, Palo Alto, 2022, 10247-10255.

47. Kwiecień Jarosław, **Marcinkowski Jerzy**, *Ostropolski-Nalewaja Piotr*

Determinacy of real conjunctive queries. The Boolean case

in: Proceedings of the 41st ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems / red.Pablo Barcelo, Leonid Libkin

Association for Computing Machinery (ACM), New York, 2022, 347-358.

48. Lassota Alexandra, *Łukasiewicz Aleksander*, Polak Adam

Tight vector bin packing with few small items via fast exact matching in multigraphs

in: 49th International Colloquium on Automata, Languages, and Programming (ICALP 2022) / red.Mikołaj Bojańczyk, Emanuela Merelli, David P. Woodruff

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 87:1-87:15.

49. *Łukasiewicz Aleksander*, **Uznański Przemysław**

Cardinality estimation using Gumbel distribution

in: 30th Annual European Symposium on Algorithms (ESA 2022) / red.Shiri Chechik, Gonzalo Navarro, Eva Rotenberg, Grzegorz Herman

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 76:1-76:13.

50. **Materzok Marek**

Generating circuits with generators

Proceedings of the ACM on Programming Languages, 2022, **6**, 52–79.

51. **Michaliszyn Jakub, Otop Jan**

Learning infinite-word automata with loop-index queries

Artificial Intelligence, 2022, **307**, 1-17.

52. **Michaliszyn Jakub, Otop Jan**

Learning deterministic visibly pushdown automata under accessible stack

in: 47th International Symposium on Mathematical Foundations of Computer Science (MFCS 2022) / red.Stefan Szeider, Robert Ganian, Alexandra Silva

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 74:1-74:16.

53. *Miernik Radoslaw*, **Kowalski Jakub**

Evolving evaluation functions for collectible card game AI

in: Proceedings of the 14th International Conference on Agents and Artificial Intelligence, Vol. 3 / red.Ana Paula Rocha, Luc Steels, Jaap van den Herik

SCITEPRESS, Setúbal, 2022, 253-260.

54. *Ostropolski-Nalewaja Piotr*, **Marcinkowski Jerzy**, Carral David, Rudolph Sebastian

A journey to the frontiers of query rewritability

in: Proceedings of the 41st ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems / red.Pablo Barcelo, Leonid Libkin

Association for Computing Machinery (ACM), New York, 2022, 359-367.

55. **Rajba Paweł**, Mazurczyk Wojciech

Limitations of web cryptojacking detection: a practical evaluation

in: Proceedings of the 17th International Conference on Availability, Reliability and Security, ARES ' 22 / red.Dominik Engel, Mathias Fischer

Association for Computing Machinery (ACM), New York, 2022, 1-6.

56. Stanczyk Justyna, Kajewska-Szkudlarek Joanna, **Wnuk-Lipiński Piotr**,
Rychlikowski Paweł

Improving short-term water demand forecasting using evolutionary algorithms

Scientific Reports, 2022, **12**, 13522:1-13522:25.

57. **Szykuła Marek**, Zyzik Adam

An improved algorithm for finding the shortest synchronizing words

in: 30th Annual European Symposium on Algorithms (ESA 2022) / red. Shiri Chechik,
Gonzalo Navarro, Eva Rotenberg, Grzegorz Herman

Schloss Dagstuhl - Leibniz-Zentrum für Informatik, Wadern, 2022, 85:1-85:15.

58. Veselý Pavel, Chrobak Marek, **Jeż Łukasz**, Sgall Jiri

A ϕ -competitive algorithm for scheduling packets with deadlines

SIAM Journal on Computing, 2022, **51**, 1626-1691.