

Pavel Veselý – Curriculum Vitae

Current position: Assistant Professor at Computer Science Institute of Charles University
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RESEARCH INTERESTS

Theoretical computer science, with particular focus on designing efficient algorithms and data structures, specifically:

- streaming algorithms and data summaries/sketches (e.g., quantile estimation, geometric streams, etc.),
- online algorithms (primarily packing and scheduling problems, with particular focus on buffer management problems),
- approximation algorithms (e.g., the shortest superstring problem), and
- data structures for k -mer sets of genomic data.

POSITIONS, EDUCATION, AND ACADEMIC DEGREES

September 2020 — present: **Assistant Professor**, Computer Science Institute of Charles University, Prague, Czech Republic. On leave from 19 September 2020 – 30 April 2021.

September 2018 — April 2021: **Research Fellow**, Department of Computer Science, University of Warwick. Advisor prof. **Graham Cormode**.

Ph.D. — 2018, Charles University, doctoral thesis *Online Algorithms for Packet Scheduling*. Advisor prof. RNDr. **Jiří Sgall**, DrSc.

October 2014 — September 2018: PhD studies at Computer Science Institute of Charles University, Prague, Czech Republic. Advisor prof. RNDr. **Jiří Sgall**, DrSc.

Mgr. — 2014, Charles University, master thesis *Online algorithms for variants of bin packing*. Advisor prof. RNDr. **Jiří Sgall**, DrSc.

October 2012 — September 2014: master studies, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic.

Bc. — 2012, Charles University, bachelor thesis *Artificial intelligence in abstract 2-player games*. Advisor RNDr. **Tomáš Valla**, Ph.D.

October 2010 — September 2012: bachelor studies, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic.

AWARDS

2022 ACM SIGMOD Research Highlight Award for the PODS 2021 paper *Relative Error Streaming Quantiles*.

Best Paper Award at the 40th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2021) for paper *Relative Error Streaming Quantiles*.

Faculty Post-Doctoral Research Prize at the University of Warwick's Faculty of Science, Engineering and Medicine (SEM) for paper *A Tight Lower Bound for Comparison-Based Quantile Summaries*.

Tutorial for *Linear algebra I* in winter semester 2016/2017 was awarded by dean as **one the best tutorials in the student rating** at the Faculty of Mathematics and Physics, Charles University.

Paper *Online Chromatic Number is PSPACE-Complete* received the **Best Student Paper Award** at the 27th International Workshop on Combinatorial Algorithms (IWOCA 2016).

Thesis *Artificial intelligence in abstract 2-player games* obtained the **Dean's award for the best bachelor thesis** at the Faculty of Mathematics and Physics, Charles University in academic year 2011/2012.

Paper *Online Colored Bin Packing* won the 1st place in the student contest SVOČ 2014 in section Theoretical computer science.

Paper *Artificial intelligence in abstract 2-player games* won the 3rd place at SVOČ 2013 in section Applied computer science.

SUPERVISION OF POSTDOCTORAL FELLOWS

Aleksander Łukasiewicz (2024 – present)

Nicolaos Matsakis (2022 – 2024)

SUPERVISION OF PHD STUDENTS

Tomáš Domes (2024 – present): PhD student, working primarily on quantile summaries.

UNDERGRADUATE STUDENTS

Master students

Jakub Komárek (2024 – present): working on differentially private quantile summaries.

Tomáš Domes (2023 – 2024): master thesis *Streaming Algorithms for Estimating Quantiles with Novel Error Guarantees* defended in 2024.

Bachelor students

Ján Plachý (2023 – 2025): bachelor thesis *Targeted optimization of masked superstrings for k -mer sets* defended in 2025 and co-supervised by O. Sladký and K. Břinda. The thesis **won the Czech-Slovak undergraduate student competition SVOČ 2025** in category TCS+ML. Further collaboration on a paper based on his thesis.

Ondřej Sladký (2022 – 2025): bachelor thesis *Masked Superstrings for Efficient k -Mer Set Representation and Indexing* on data structures for k -mer sets in computational genomics, defended in 2024 and co-supervised by K. Břinda. The thesis **won the Czech-Slovak undergraduate student competition SVOČ 2024** in category TCS+ML, and received the **Dean's award for the best bachelor thesis** in computer science in 2024. Further collaboration on three papers that resulted from the thesis.

Vojtěch Gaďurek (2023 – present): bachelor thesis *Data Structures for Sketching Dynamic Sets* on efficiently implementing and improving Invertible Bloom Lookup Tables (IBLT) for structured data, such as k -mer sets, defended in 2024. The thesis got the 3rd place in the Czech-Slovak undergraduate student competition SVOČ 2025 in category TCS+ML. Preparing a paper with results from the thesis.

Other bachelor students: **Martin Belluš** (2024 – present), **Adam Beneš** (2023 – present), **Dan Skýpala** (2023 – 2025), **Jan Adámek** (2023 – 2024), **Matúš Mitro** (2023 – 2024), **Ekaterina Milyutina** (2022 – 2023), **Petra Kaštánková** (2016)

ORGANIZATION OF SCIENTIFIC MEETINGS

Spring School of Combinatorics 2022—present (annual event held in the Czech countryside consisting of student presentations of research papers)

Current Trends in Theoretical Computer Science 2023 and 2025 (“Současné trendy teoretické informatiky”, a Czech/Slovak conference consisting of invited presentations by young researchers in TCS)

GRANT PROJECTS

Principal Investigator

RoSAlg: Robust Streaming Algorithms versus Adaptive Adversaries, 2024 – 2026 ERC CZ grant LL2406 from the Ministry of Education, Youth and Sports of the Czech Republic. PI: Mgr. Pavel Veselý, Ph.D.

Efficient Indexing of Large Genome Collections via Masked Superstrings of k -Mers, 2025 – 2026. Mobility grant for collaboration with Inria – French National Institute for Research in Digital Science and Technology, specifically with Karel Břinda and his collaborators. PHC BARRANDE project 8J25FR053 of the Ministry of Education, Youth and Sports of the Czech Republic. PI: Mgr. Pavel Veselý, Ph.D.

Effective scheduling in overloaded systems, 2017 – 2018. Grant 634217 of the Charles University Grant Agency. PI: Mgr. Pavel Veselý. Supervisor prof. RNDr. Jiří Sgall, DrSc.

Team Member

New challenges in streaming, online, and combinatorial algorithms, 2024 – present. Grant 24-10306S of the Czech Science Foundation (GAČR). PI: Jiří Sgall.

Efficient and Realistic Models for Computational Social Choice, 2022 – present. Grant 22-22997S of the Czech Science Foundation (GAČR). PI: Martin Koutecký.

EPAC: Efficient approximation algorithms and circuit complexity, 2021 – present. Grant 19-27871X of the Czech Science Foundation (GAČR). PIs: Michal Koucký and Pavel Hrubeš.

Center for Foundations of Modern Computer Science, 2021 – present. Charles University research center in the program UNCE. PI: prof. RNDr. Jiří Sgall, DrSc.

Small Summaries for Big Data, 2018 – 2021. European Research Council grant ERC-2014-CoG 647557. PI: prof. Graham Cormode.

Modern algorithms: New challenges of complex data sets, 2017 — 2018. Grant 17-09142S of the Czech Science Foundation (GAČR). PI: prof. RNDr. Jiří Sgall, DrSc.

Parameterized Approximation Algorithms, 2017 – 2018. Grant 1514217 of the Charles University Grant Agency. PI: RNDr. Tomáš Masařík. Supervisor Dr. Andreas Emil Feldmann.

Restricted types of computation: algorithms, models, complexity, 2014 – 2016. Grant 14-10003S of the Czech Science Foundation (GAČR). PI: prof. RNDr. Jiří Sgall, DrSc.

Configuration LP and other modern methods for approximation and online algorithms, 2014 – 2016. Grant 548214 of the Charles University Grant Agency. PI: Mgr. Martin Böhm. Supervisor prof. RNDr. Jiří Sgall, DrSc.

PUBLICATIONS

Publications are listed chronologically.

Journal Publications

- [1] O. Sladký, P. Veselý, K. Břinda: *From Superstring to Indexing: a space-efficient index for unconstrained k -mer sets using the Masked Burrows-Wheeler Transform (MBWT)*. *Bioinformatics Advances*, 2025; vbaf290, doi:10.1093/bioadv/vbaf290
- [2] A. Czumaj, S. H.-C. Jiang, R. Krauthgamer, P. Veselý: *Streaming Algorithms for Geometric Steiner Forest*. *ACM Trans. Algorithms* 20(4): 28:1-28:38, 2024. doi:10.1145/3663666.
- [3] A. Antoniadis, M. Englert, N. Matsakis, P. Veselý: *Breaking the Barrier Of 2 for the Competitiveness of Longest Queue Drop*. *ACM Trans. Algorithms* 20(4): 38:1-38:29, 2024. doi:10.1145/3676887.
- [4] G. Cormode, Z. Karnin, E. Liberty, J. Thaler, P. Veselý: *Relative Error Streaming Quantiles*. *Journal of the ACM*, vol. 70(5), p. 30:1–30:48, 2023. doi:10.1145/3617891.
- [5] P. Veselý, M. Chrobak, Ľ. Jež, J. Sgall: *A ϕ -Competitive Algorithm for Scheduling Packets with Deadlines*. *SIAM Journal on Computing*, vol. 51(5), p. 1626–1691, 2022. doi:10.1137/21M1469753

- [6] P. Dvořák, A.E. Feldmann, D. Knop, T. Masařík, T. Toufar, P. Veselý: *Parameterized Approximation Schemes for Steiner Trees with Small Number of Steiner Vertices*. SIAM Journal on Discrete Mathematics, vol. 35(1), p. 546–574, 2021. doi:10.1137/18M1209489
- [7] M. Bienkowski, M. Böhm, J. Byrka, M. Chrobak, C. Dürr, L. Folwarczný, Ł. Jeż, J. Sgall, N. K. Thang, P. Veselý: *New Results on Multi-Level Aggregation*. Theoretical Computer Science, vol. 861, p. 133–143, 2021. doi:10.1016/j.tcs.2021.02.016.
- [8] M. Böhm, Ł. Jeż, J. Sgall, P. Veselý: *On Packet Scheduling with Adversarial Jamming and Speedup*. Annals of Operations Research, vol. 298, p. 7–42, 2021. doi:10.1007/s10479-019-03153-x.
- [9] G. Cormode, P. Veselý: *Streaming Algorithms for Bin Packing and Vector Scheduling*. Theory of Computing Systems, vol. 65, p. 916–942, 2021. doi:10.1007/s00224-020-10011-y.
- [10] M. Bienkowski, M. Böhm, J. Byrka, M. Chrobak, C. Dürr, L. Folwarczný, Ł. Jeż, J. Sgall, N. K. Thang, P. Veselý: *Online Algorithms for Multi-Level Aggregation*. Operations Research, vol. 68(1), p. 214–232, 2020. doi:10.1287/opre.2019.1847.
- [11] M. Böhm, M. Chrobak, Ł. Jeż, F. Li, J. Sgall, P. Veselý: *Online Packet Scheduling with Bounded Delay and Lookahead*. Theoretical Computer Science, vol. 776, p. 95–113, 2019. doi:10.1016/j.tcs.2019.01.013.
- [12] M. Bienkowski, M. Böhm, Ł. Jeż, P. Laskoś-Grabowski, J. Marcinkowski, J. Sgall, A. Spyra, P. Veselý: *Logarithmic price of buffer downscaling on line metrics*. Theoretical Computer Science, vol. 707, p. 89–93, Elsevier, 2018. doi:10.1016/j.tcs.2017.10.008.
- [13] M. Böhm, P. Veselý: *Online Chromatic Number is PSPACE-Complete*. Theory of Computing Systems, vol. 62(6), p. 1366–1391, Springer, 2018. doi:10.1007/s00224-017-9797-2.
- [14] M. Böhm, G. Dósa, L. Epstein, J. Sgall, P. Veselý: *Colored Bin Packing: Online Algorithms and Lower Bounds*. Algorithmica, vol. 80(1), p. 155–184, Springer, 2018. doi:10.1007/s00453-016-0248-2.
- [15] M. Böhm, J. Sgall, R. van Stee, P. Veselý: *A Two-Phase Algorithm for Bin Stretching with Stretching Factor 1.5*. Journal of Combinatorial Optimization, vol. 34(3), p. 810–828, Springer, 2017. doi:10.1007/s10878-017-0114-4.
- [16] M. Böhm, J. Sgall, R. van Stee, P. Veselý: *Online Bin Stretching with Three Bins*. Journal of Scheduling, vol. 20(6), p. 601–621, Springer, 2017. doi:10.1007/s10951-016-0504-y.

Publications in Conference Proceedings

- [17] A. Łukasiewicz, J. Tětek, P. Veselý: *SplineSketch: Even More Accurate Quantiles with Error Guarantees*. In Proc. ACM Manag. Data 3, 6 (SIGMOD), Article 362 (December 2025), 26 pages, 2025. doi:10.1145/3769827.
- [18] M. Halldórsson, N. Matsakis, P. Veselý. Streaming diameter of high-dimensional points. In *33rd Annual European Symposium on Algorithms, ESA 2025, Warsaw, Poland, September 15-17, 2025*, volume 351 of *LIPICs*, pages 58:1–58:10. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2025. doi:10.4230/LIPICs.ESA.2025.58.
- [19] O. Sladký, P. Veselý, K. Břinda: *Towards Efficient k -Mer Set Operations via Function-Assigned Masked Superstrings*, pp. 26–40. Proceedings of PSC 2025, ISBN 978-80-01-07461-9.
- [20] A. Czumaj, G. Gao, S. H.-C. Jiang, R. Krauthgamer, P. Veselý: *Fully-Scalable MPC Algorithms for Clustering in High Dimension*. In Proc. of the 51st EATCS International Colloquium on Automata, Languages, and Programming (ICALP 2024), Vol. 297, pp. 50:1–50:20, Schloss Dagstuhl – Leibniz-Zentrum für Informatik (2024). doi:LIPICs.ICALP.2024.50.
- [21] M. Englert, N. Matsakis, P. Veselý: *Approximation Guarantees for Shortest Superstrings: Simpler and Better*. In Proc. of the 34th International Symposium on Algorithms and Computation (ISAAC 2023), p. 1–26, LIPICs, 2023. doi:10.4230/LIPICs.ISAAC.2023.29.
- [22] A. Czumaj, S. H.-C. Jiang, R. Krauthgamer, P. Veselý, M. Yang: *Streaming Facility Location in High Dimension via Geometric Hashing*. In Proc. of the 63rd IEEE Symposium on Foundations of Computer Science (FOCS 2022), p. 450–461, IEEE. doi:10.1109/FOCS54457.2022.00050.
- [23] A. Czumaj, S. H.-C. Jiang, R. Krauthgamer, P. Veselý: *Streaming Algorithms for Geometric Steiner Forest*. In Proc. of the 49th International Colloquium on Automata, Languages, and Programming (ICALP 2022), p. 47:1–47:20. doi:10.4230/LIPICs.ICALP.2022.47.
- [24] M. Englert, N. Matsakis, P. Veselý: *Improved Approximation Guarantees for Shortest Superstrings using Cycle Classification by Overlap to Length Ratios*. In Proc. of the 54th ACM Symposium on Theory of Computing (STOC 2022), p. 317–330, ACM, 2022. doi:10.1145/3519935.3520001.

- [25] M. Bienkowski, M. Böhm, M. Koutecký, T. Rothvoß, J. Sgall, P. Veselý: *Improved Analysis of Online Balanced Clustering*. In Proc. of the 19th Workshop on Approximation and Online Algorithms (WAOA 2021), LNCS 12982, p. 224-233, Springer, 2022. doi:10.1007/978-3-030-92702-8_14.
- [26] G. Cormode, A. Mishra, J. Ross, P. Veselý: *Theory meets Practice at the Median: a worst case comparison of relative error quantile algorithms*. In Proc. of the 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2021), pp 2722–2731, ACM, 2021. doi:10.1145/3447548.3467152
- [27] A. Antoniadis, M. Englert, N. Matsakis, P. Veselý: *Breaking the Barrier Of 2 for the Competitiveness of Longest Queue Drop*. In Proc. of the 48th International Colloquium on Automata, Languages, and Programming (ICALP 2021), LIPIcs, p. 17:1–17:20, Schloss Dagstuhl, 2021. doi:10.4230/LIPIcs.ICALP.2021.17.
- [28] G. Cormode, Z. Karnin, E. Liberty, J. Thaler, P. Veselý: *Relative Error Streaming Quantiles*. In Proc. of the 40th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2021), p. 96–108, ACM, 2021. **Best Paper Award. Invited to JACM. ACM SIGMOD Research Highlight Award.** doi:10.1145/3452021.3458323.
- [29] G. Cormode, P. Veselý: *Tight Lower Bound for Comparison-Based Quantile Summaries*. In Proc. of the 39th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2020), p. 81–93, ACM, 2020. doi:10.1145/3375395.3387650.
- [30] G. Cormode, P. Veselý: *Streaming Algorithms for Bin Packing and Vector Scheduling*. In Proc. of the 17th Workshop on Approximation and Online Algorithms (WAOA 2019), LNCS 11926, p. 72–88, Springer, 2020. doi:10.1007/978-3-030-39479-0_6.
- [31] P. Veselý, M. Chrobak, L. Jež, J. Sgall: *A ϕ -Competitive Algorithm for Scheduling Packets with Deadlines*. In Proc. of the 30th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2019), p. 123–142, Society for Industrial and Applied Mathematics, 2019. doi:10.1137/1.9781611975482.9.
- [32] P. Dvořák, A.E. Feldmann, D. Knop, T. Masařík, T. Toufar, P. Veselý: *Parameterized Approximation Schemes for Steiner Trees with Small Number of Steiner Vertices*. In Proc. of the 35th International Symposium on Theoretical Aspects of Computer Science (STACS 2018), LIPIcs, p. 26:1–26:15, Schloss Dagstuhl, 2018. doi:10.4230/LIPIcs.STACS.2018.26.
- [33] M. Böhm, L. Jež, J. Sgall, P. Veselý: *On Packet Scheduling with Adversarial Jamming and Speedup*. In Proc. of the 15th Workshop on Approximation and Online Algorithms (WAOA 2017), LNCS 10787, p. 190–206, Springer, 2018. doi:10.1007/978-3-319-89441-6_15.
- [34] M. Böhm, P. Veselý: *Online Chromatic Number is PSPACE-Complete*. In Proc. of the 27th International Workshop on Combinatorial Algorithms (IWOCA 2016), LNCS 9843, p. 16–28, Springer, 2016. **Best Student Paper Award.** doi:10.1007/978-3-319-44543-4_2.
- [35] M. Böhm, M. Chrobak, L. Jež, F. Li, J. Sgall, P. Veselý: *Online Packet Scheduling with Bounded Delay and Lookahead*. In Proc. of the 27th International Symposium on Algorithms and Computation (ISAAC 2016), LIPIcs, p. 21:1–21:13, Schloss Dagstuhl, 2016. doi:10.4230/LIPIcs.ISAAC.2016.21.
- [36] M. Bienkowski, M. Böhm, J. Byrka, M. Chrobak, C. Dürr, L. Folwarczný, L. Jež, J. Sgall, N. K. Thang, P. Veselý: *Online Algorithms for Multi-Level Aggregation*. In Proc. of the 24th Annual European Symposium on Algorithms (ESA 2016), LIPIcs, p. 12:1–12:17, Schloss Dagstuhl, 2016. doi:10.4230/LIPIcs.ESA.2016.12.
- [37] M. Böhm, J. Sgall, P. Veselý: *Online Colored Bin Packing*. In Proc. of the 12th Workshop on Approximation and Online Algorithms (WAOA 2014), LNCS 8952, p. 35–46, Springer, 2015. doi:10.1007/978-3-319-18263-6_4.
- [38] M. Böhm, J. Sgall, R. van Stee, P. Veselý: *Better Algorithms for Online Bin Stretching*. In Proc. of the 12th Workshop on Approximation and Online Algorithms (WAOA 2014), LNCS 8952, p. 236–247, Springer, 2015. doi:10.1007/978-3-319-18263-6_3.
- [39] T. Valla, P. Veselý: *WALTZ: a strong Tzaar-playing program*. Computer Games, vol. 408 of series Communications in Computer and Information Science, p. 81–96, Springer, 2014. doi:10.1007/978-3-319-05428-5_7.

ACM newsletters

- [40] G. Cormode, Z. Karnin, E. Liberty, J. Thaler, P. Veselý: *Relative Error Streaming Quantiles*. ACM SIGMOD Record, vol. 51(1), p. 69–76, 2022. doi:10.1145/3542700.3542717.
- [41] P. Veselý: *Packet Scheduling: Plans, Monotonicity, and the Golden Ratio*. ACM SIGACT News, vol. 52(2), p. 72–84, 2021. doi:10.1145/3471469.3471481

TEACHING

Lectures at the Faculty of Mathematics and Physics, Charles University:

- *Data Structures I* (core master course; winter semester 25/26)
- *Algorithms and automata for teachers* (core bachelor course; winter semester 24/25)
- *Algorithms and data structures I* (core bachelor course; summer semesters 21/22 and 23/24)
- *Streaming Algorithms for Big Data* (designed new course; summer semesters 21/22 and 23/24, winter semester 25/26)
- *Combinatorics and Graph Theory 2* (bachelor course; summer semester 22/23)
- *Algorithmic Data Privacy* (designed new course, together with Pavel Hubáček; summer semesters 22/23 and 24/25)

Tutorials for the following courses at the Faculty of Mathematics and Physics, Charles University:

- *Randomized Algorithms* (master course; summer semesters 22/23 and 24/25),
- *Combinatorics and Graph Theory 2* (bachelor course; summer semester 22/23),
- *Data structures I* (core master course; all winter semesters starting 22/23),
- *Mathematical skills* (bachelor course; winter semesters 21/22 and 22/23),
- *Approximation and online algorithms* (master course; summer semester 17/18, together with Martin Böhm),
- *Introduction to approximation and randomized algorithms* (bachelor course; winter semester 17/18),
- *Optimization methods* (core bachelor course; summer semesters 15/16 and 16/17),
- *Linear algebra I* (core bachelor course; winter semester 16/17 and 21/22),
- *Algorithms and data structures II* (core bachelor course; winter semesters 14/15, 15/16, 22/23, and 23/24),
- *Algorithms and data structures I* (core bachelor course; summer semesters 12/13, 14/15, 21/22, and 23/24),
- *Probability and Statistics I* (core bachelor course; summer semester 24/25),

Since 2025: Co-organizing *Algorithmic Problem Solving Seminar*

Since 2023: Co-organizing *Seminar on Theory of Computing*

2019: Seminar tutor for *Discrete Mathematics and its Applications 2* (term 2 of 18/19) at University of Warwick.

2016: Mentoring computer science students enrolled in English programs at the Faculty of Mathematics and Physics.

SELECTED TALKS

Masked superstrings as a compact, indexable, and dynamic representation of unconstrained k-mer sets:

- RECOMB-seq (and a poster at RECOMB), April 2025.

Streaming Diameter of High-Dimensional Points:

- Workshop on High-Dimensional and Complex Data Algorithms, Venice, May 2025.

Theory meets practice at the median: a highly accurate quantile summary with error guarantees:

- Seminar of the DKM department at IRISA in Rennes, France, February 2025.

Adversarially Robust Streaming Algorithms: Survey and Open Problems:

- Warwick-Weizmann 2023 workshop, May 2023.

Massively Parallel Algorithms for Clustering in High Dimension:

- Seminar on Theory of Computing at Charles University, 2023.

Theory meets practice at textual k-mer set representations:

- Seminar on Theory of Computing at Charles University, 2023.

Streaming Facility Location in High Dimension via Geometric Hashing:

- DIMACS Workshop on Efficient Algorithms for High Dimensional Metrics: New Tools, Rutgers University, 2024
- 63rd IEEE Symposium on Foundations of Computer Science (FOCS 2022),
- Seminar on Theory of Computing at Charles University, 2022,
- Seminar at Basic Algorithms Research Copenhagen, February 2023.

Improved Approximation Guarantees for Shortest Superstrings using Cycle Classification by Overlap to Length Ratios:

- Seminar on Theory of Computing at Charles University, 2022.

Breaking the Barrier of 2 for the Competitiveness of Longest Queue Drop:

- 48th International Colloquium on Automata, Languages, and Programming (ICALP 2021),
- Current Trends in Theoretical Computer Science 2021 (“Současné trendy teoretické informatiky”, in Czech).

Streaming Algorithms for Geometric Steiner Forest:

- Workshop Complexity Theory with a Human Face, 2nd Edition, 2021.

Relative Error Streaming Quantiles:

- Workshop on Local Algorithms (WOLA) 2020,
- British Colloquium for Theoretical Computer Science 2021,
- Highlights of Algorithms 2021 (contributed talk),
- ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2021),
- Seminar on Theory of Computing at Charles University, 2021.

Tight Lower Bound for Comparison-Based Quantile Summaries:

- Warwick-Weizmann workshop 2019,
- Noon seminar at Department of Applied Mathematics, Charles University, 2019,
- British Colloquium for Theoretical Computer Science 2020,
- ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2020).

Streaming Algorithms for Bin Packing and Vector Scheduling:

- 17th Workshop on Approximation and Online Algorithms (WAOA 2019),
- DIMAP Workshop: Research Day 2019.

A ϕ -Competitive Algorithm for Scheduling Packets with Deadlines:

- Current Trends in Theoretical Computer Science 2019 (“Současné trendy teoretické informatiky”, in Czech),
- British Colloquium for Theoretical Computer Science 2019,
- Mittagseminar at Max Planck Institute for Informatics, 2019,
- 30th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2019),
- DIMAP Seminar at University of Warwick, 2018,
- Midsummer Combinatorial Workshop 2018,
- Modern Online Algorithms 2018.

On Packet Scheduling with Adversarial Jamming and Speedup:

- New Challenges in Scheduling Theory 2018,
- 15th Workshop on Approximation and Online Algorithms (WAOA 2017).

Online Packet Scheduling with Bounded Delay and Lookahead:

- Current Trends in Theoretical Computer Science 2017 (“Současné trendy teoretické informatiky”, in Czech),
- 13th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP 2017),
- 27th International Symposium on Algorithms and Computation (ISAAC 2016).

Complexity of Online Coloring with Constant Pre-coloring:

- EURO Summer Institute on Online Optimization 2015.

Online Colored Bin Packing:

- 12th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP 2015),
- 12th Workshop on Approximation and Online Algorithms (WAOA 2014),
- Trends in Online Algorithms 2014,
- Middle-European Conference on Applied Theoretical Computer Science (MATCOS) 2013.

OTHER ACADEMIC ACTIVITIES

Collaboration with Splunk Inc., a US-based company that focuses on processing machine-generated big data, on algorithms for estimating quantiles in data streams that resulted in a joint publication at KDD 2021.

Collaboration with Apache DataSketches, an open-source software library of stochastic streaming algorithms, on implementing the algorithm for relative-error streaming quantiles from the PODS 2021 paper.

Program committee member:

- 32nd Annual European Symposium on Algorithms (**ESA 2024**),
- 18th Workshop on Approximation and Online Algorithms (**WAOA 2020**).

Referee for journals JACM, SIAM J. Comp., IEEE Trans. Dependable Secure Comput, Math. Prog., ACM Trans. Database Syst., Comput. Netw., Discrete Appl. Math., Theor. Comp. Sci., and Inf. Comput.; reviewer for various TCS conferences incl. STOC, FOCS, SODA, PODS, ICALP, ESA, MFCS; reviewed five bachelor theses (three as opponent) at the Faculty of Mathematics and Physics, Charles University.

Participated in *Open Days* and *Days of Computer Science and Mathematics* of the Faculty of Mathematics and Physics in 2012, 2013, 2014, 2017, and 2024. Till 2021, I had a stall and a poster about combinatorial games. From 2024, I had a popularization talk about data sketches and streaming algorithms.

M. Böhm, K. Král, J. Novotná, K. Tesař, P. Veselý: *Restricted Packing of 12 and 13 Unit Squares in a Square*. The paper got a honorable mention at SVOČ 2013 in section Theoretical computer science.

June — July 2012: Participated at Research Experiences for Undergraduates, Rutgers University, USA.

2009 — 2014: Organizer of the *Correspondence Programming Seminar* (“Korespondenční seminář z programování”, KSP) under the Faculty of Mathematics and Physics. The aim of the seminar is to teach basics of computer science to high school students.

M. Böhm, L. Lánský, P. Veselý et al.: *Programátorské kuchařky* (“Programmer’s cookbooks”, in Czech). MatfyzPress Praha, 2011, ISBN 978-80-7378-181-1. A collection of texts on basic algorithmic and programming techniques, written for KSP.

SKILLS, INTERESTS, AND OTHER

2018: Attended an educational workshop for pedagogical skills (called “Vzdělávací program pedagogických zkušeností”, in Czech).

2015: Attended workshop FOCUS by the GrowJob institute to improve focus, mindfulness, learning ability, and creativity.

2010 and 2011: Participated in Central European Regional Contest of the ACM International Collegiate Programming Contest.

2008 — 2015: collaboration with SGP Systems, s.r.o., a company that develops software for children to learn basic principles of programming. The collaboration included programming in C#, ASP.NET, and organizing programming contests for children.

Non-professional interests and hobbies: personal development, mountain hiking, distance running, cipher games, board games, juggling.

Married, $\Theta(1)$ children.