

List of research papers

Journals

1. *On Edge-Length Ratios of Partial 2-Trees*
coauthored with Václav Blažej, Giuseppe Liotta,
International Journal of Computational Geometry and Applications **31**(2–3), (2021), pp. 141–162.
(Also published in conference proceedings — see item [43](#).)
2. *Reconfiguration graph for vertex colourings of weakly chordal graphs*
coauthored with Carl Feghali,
Discrete Mathematics **343**, 3, 111733, (2020), pp. 1–6.
(Also published in conference proceedings — see item [44](#).)
3. *Parameterized complexity of distance labeling and uniform channel assignment problems*
coauthored with Tomáš Gavenčíak, Dušan Knop, Martin Koutecký and Jan Kratochvíl
Discrete Applied Mathematics **248** (2018), pp. 46–55.
(Also published in conference proceedings — see item [46](#).)
4. *3-connected reduction for regular graph covers*
coauthored with Pavel Klavík, Jan Kratochvíl and Roman Nedela:
European Journal of Combinatorics **73** (2018), pp. 170–210.
(Also published in conference proceedings — see item [47](#).)
5. *Fractal property of the graph homomorphism order*
coauthored with Jan Hubička, Yangjing Long and Jaroslav Nešetřil
European Journal of Combinatorics **66** (2017), pp. 101–109.
6. *Gaps in full homomorphism order*
coauthored with Jan Hubička and Yangjing Long
Electronic Notes in Discrete Mathematics **61** (2017), pp. 429–435.
7. *An universality argument for graph homomorphisms*
coauthored with Jan Hubička and Yangjing Long
Electronic Notes in Discrete Mathematics **49** (2015), pp. 643–649.
8. *Locally constrained homomorphisms on graphs of bounded treewidth and bounded degree*
coauthored with Steven Chaplick, Pim van't Hof, Daniël Paulusma and Marek Tesař
Theoretical Computer Science **590**, 26 (2015), pp. 86–95.
(Also published in conference proceedings — see item [49](#).)
9. *Linear-Time Algorithms for Scattering Number and Hamilton-Connectivity of Interval Graphs*
coauthored with Hajo Broersma, Peter A. Golovach, Tomáš Kaiser, Daniël Paulusma and Andrzej Proskurowski
Journal of Graph Theory, **79**, 4, (2015), pp. 282–299.
(Also published in conference proceedings — see item [48](#).)
10. *Universality of intervals of line graph order*
coauthored with Jan Hubička and Yangjing Long
European Journal of Combinatorics **41** (2014), pp. 221–231.

11. *A note on contracting claw-free graphs*
coauthored with Marcin Kamiński, and Daniël Paulusma,
Discrete Mathematics and Theoretical Computer Science **15**, 2 (2013), pp. 223–232.
12. *Detecting induced star-like minors in polynomial time*
coauthored with Marcin Kamiński, and Daniël Paulusma,
Journal of Discrete Algorithms **17** (2012), pp. 74–85.
13. *Distance Three Labelings for Trees*
coauthored with Peter A. Golovach, Jan Kratochvíl, Bernard Lidický and Daniël Paulusma,
Discrete Applied Mathematics **160**, 6 (2012), pp. 764–779.
(Also published in conference proceedings — see item [65](#).)
14. *The k -in-a-path problem for claw-free graphs*
coauthored with Marcin Kamiński, Bernard Lidický and Daniël Paulusma,
Algorithmica **62**, 1-2 (2012), pp. 499–519.
(Also published in conference proceedings — see item [51](#).)
15. *Parameterized Complexity of Coloring Problems: Treewidth versus Vertex Cover*
coauthored with Peter A. Golovach and Jan Kratochvíl
Theoretical Computer Science **412**, 23 (2011), pp. 2513–2523.
(Also published in conference proceedings — see item [52](#).)
16. *Comparing universal covers in polynomial time*,
coauthored with Daniël Paulusma,
Theory of Computing Systems **46**, 4 (2010), pp. 620–635.
(Also published in conference proceedings — see item [56](#).)
17. *Complexity of the packing coloring problem of trees*,
coauthored with Peter A. Golovach,
Discrete Applied Mathematics **158**, 7 (2010), pp. 771–778.
(Also published in conference proceedings — see item [53](#).)
18. *The packing chromatic number of infinite product graphs*,
coauthored with Sandi Klavžar and Bernard Lidický,
European Journal of Combinatorics, **30**, 5 (2009), pp. 1101–1113.
19. *On the computational complexity of partial covers of Theta graphs*,
coauthored with Jan Kratochvíl, Attila Pór,
Discrete Applied Mathematics **156**, 7 (2008), pp. 1143–1149.
(Also published in conference proceedings — see item [63](#).)
20. *Locally Constrained Graph Homomorphisms — Structure, Complexity, and Applications*,
coauthored with Jan Kratochvíl,
Computer Science Review, **2** (2008), pp. 97–111.
21. *Block transitivity and degree matrices*,
coauthored with José Soto,
European Journal of Combinatorics, **29**,5 (2008), pp. 1160–1172.
(Also published in conference proceedings — see item [57](#).)

22. *Locally constrained graph homomorphisms and equitable partitions*,
coauthored with Daniël Paulusma, Jan Arne Telle,
European Journal of Combinatorics, **29**,4 (2008), pp. 850–880.
(Also published in conference proceedings — see items [60](#), [62](#).)
23. *The Subchromatic Index of Graphs*,
coauthored with Van Bang Le,
Tatra Mountain Mathematical Publications, **36** (2007), pp. 129–146.
24. *Cantor-Bernstein type theorem for locally constrained graph homomorphisms*,
coauthored with Jana Maxová,
European Journal of Combinatorics, **27**(7) (2006), pp. 1111–1116.
25. *A complete complexity classification of the role assignment problem*,
coauthored with Daniël Paulusma,
Theoretical Computer Science, **349**(1) (2005), pp. 67–81.
(Partially published in conference proceedings — see item [66](#).)
26. *A Brooks-type Theorem for the Generalized List T -coloring*,
coauthored with Daniel Král, Riste Škrekovski,
SIAM Journal of Discrete Mathematics, **19**(3) (2005), pp. 588–609.
27. *Generalized list T -colorings of cycles*
coauthored with Riste Škrekovski,
Discrete Applied Mathematics, **148**(1) (2005), pp. 13–25.
28. *Systems of distant representatives*,
coauthored with Jan Kratochvíl and Andrzej Proskurowski,
Discrete Applied Mathematics, **145**(2) (2005), pp. 306–316.
(Partially published in conference proceedings — see items [69](#),[72](#).)
29. *On distance constrained labeling of disk graphs*,
coauthored with Aleksei V. Fishkin and Fedor V. Fomin,
Theoretical Computer Science **326**(1-3) (2004), pp. 261–292.
(Also published in conference proceedings — see item [73](#).)
30. *New lower bounds on the weighted chromatic number of a graph*,
coauthored with Massimiliano Caramia,
Discussiones Mathematicae Graph Theory **24**(2) (2004), pp. 183–195.
31. *Geometric separation and exact solutions for the parameterized independent set problem on disk graphs*,
coauthored with Jochen Alber,
Journal of Algorithms **52**(2) (2004), pp. 134–151.
(Also published in conference proceedings — see item [70](#).)
32. *Generalized H -coloring and H -covering of trees*,
coauthored with Pinar Heggernes, Petter Kristiansen and Jan Arne Telle,
Nordic Journal of Computing **10**(3) (2003), pp. 206–224.
(Also published in conference proceedings — see item [67](#).)
33. *Graph Subcolorings: Complexity and Algorithms*,
coauthored with Klaus Jansen, Van Bang Le and Eike Seidel,

- SIAM Journal on Discrete Mathematics **16**(4) (2003), pp. 635–650.
(Also published in conference proceedings — see item 74.)
34. *NP completeness of extendability of the edge coloring on bipartite graphs*,
Journal of Graph Theory, **43** (2003), pp. 156-160.
 35. *On-line coloring of geometric intersection graphs*,
coauthored with Thomas Erlebach,
Computational Geometry: Theory and Applications, **23**(2) (2002), pp. 243–255.
 36. *Partial covers of graphs*,
coauthored with Jan Kratochvíl,
Discussiones Mathematicae Graph Theory, **22**(1) (2002), pp. 89–99.
 37. *Fixed-parameter complexity of λ -labelings*,
coauthored with Ton Kloks and Jan Kratochvíl,
Discrete Applied Mathematics, **113**(1) (2001), pp. 59–72.
(Also published in conference proceedings — see item 75.)
 38. *Computational complexity of covering cyclic graphs*,
Discrete Mathematics, **235** (2001), pp. 87–94.

Referred conference proceedings

39. *List Covering of Regular Multigraphs*
coauthored with Jan Bok, Nikola Jedličková, Jan Kratochvíl, Paweł Rzażewski
Combinatorial Algorithms, 33rd IWOCA '22, Trier, Germany (2022), LNCS 13270, Springer, pp. 228–242.
40. *Extending Partial Representations of Circular-Arc Graphs*
coauthored with Ignaz Rutter, Peter Stumpf, Peter Zeman:
Graph-Theoretic Concepts in Computer Science, 48th WG '22, Tübingen, Germany (2022),
LNCS 13453, Springer, pp. 230–243.
41. *Computational Complexity of Covering Multigraphs with Semi-edges: Small Cases*
coauthored with Jan Bok, Petr Hliněný, Nikola Jedličková and Jan Kratochvíl
Mathematical Foundations of Computer Science, 46th MFCS '21, Tallinn, Estonia (2021)
LIPIcs 202, pp. 21:1–21:15.
42. *Computational Complexity of Covering Disconnected Multigraphs*
coauthored with Jan Bok, Nikola Jedličková, Jan Kratochvíl and Michaela Seifrtová
Fundamentals of Computation Theory, 23rd FCT '21, Athens, Greece (2021), LNCS
12867, Springer, pp. 85–99.
43. *On the Edge-Length Ratio of 2-Trees*
coauthored with Václav Blažej and Giuseppe Liotta
Graph Drawing and Network Visualization, 28th GD'20, Vancouver, BC, Canada, (2020)
LNCS 12590, Springer, pp. 85–98.
44. *Reconfiguration graph for vertex colourings of weakly chordal graphs*
coauthored with Carl Feghali,
EUROCOMB 2019, Acta Mathematica Universitatis Comenianae, **88** (3) (2019), pp. 667–
671.

45. *On Vertex- and Empty-Ply Proximity Drawings*
 coauthored with Patrizio Angelini, Steven Chaplick, Felice De Luca, Jaroslav Hančl Jr., Niklas Heinsohn, Michael Kaufmann, Stephen G. Kobourov, Jan Kratochvíl and Pavel Valtr:
 Graph Drawing and Network Visualization, 25th GD'17, Boston, USA, (2018) LNCS 10692, Springer, pp. 24–37.
46. *Fixed Parameter Complexity of Distance Constrained Labeling and Uniform Channel Assignment Problems - (Extended Abstract)*
 coauthored with Tomáš Gavenčiak, Dušan Knop, Martin Koutecký and Jan Kratochvíl
 Computing and Combinatorics, 22nd COCOON'16, Ho Chi Minh City, Vietnam, (2016) LNCS 9797, Springer, pp. 67–78.
47. *Algorithmic Aspects of Regular Graph Covers with Applications to Planar Graphs*
 coauthored with Pavel Klavík, Jan Kratochvíl and Roman Nedela
 Automata, Languages, and Programming, 41st ICALP'14, Copenhagen, Denmark, (2014) LNCS 8572, Springer, pp. 489–501.
48. *On Hamiltonian properties of interval graphs*
 coauthored with Hajo Broersma, Peter A. Golovach, Tomáš Kaiser, Daniël Paulusma and Andrzej Proskurowski
 Graph-Theoretic Concepts in Computer Science, 39th WG'13, Lübeck, Germany, (2013), LNCS 8165, Springer, pp. 127–138.
49. *Locally constrained homomorphisms on graphs of bounded degree and bounded treewidth*
 coauthored with Steven Chaplick, Pim van't Hof, Daniël Paulusma and Marek Tesař
 Fundamentals of Computation Theory, 19th FCT '13, Liverpool, United Kingdom, (2013), LNCS 8070, Springer, pp. 121–132.
50. *Dichotomy of the H -quasi-cover problem*
 coauthored with Marek Tesař
 International Computer Science Symposium in Russia, 8rd CSR '13, Ekaterinburg, Russia, (2013), LNCS 7913, Springer, pp. 310–321.
51. *The k -in-a-path problem for claw-free graphs*
 coauthored with Marcin Kamiński, Bernard Lidický, Daniël Paulusma,
 Theoretical Aspects of Computer Science, 27th STACS '10, Nancy, France (2010), LIPIcs 5, Schloss Dagstuhl-Leibniz-Zentrum für Informatik, pp. 371–382.
52. *Parameterized Complexity of Coloring Problems: Treewidth versus Vertex Cover (Extended abstract)*
 coauthored with Peter A. Golovach and Jan Kratochvíl
 Theory and Applications of Models of Computation, 6th TAMC '09, Changsha, China (2009), LNCS 5532, Springer, pp. 221–230.
53. *Complexity of the packing coloring problem of trees,*
 coauthored with Peter A. Golovach,
 Graph-Theoretical Concepts in Computer Science, 34th WG '08, Durham, UK, (2008), LNCS 5344, Springer, pp. 134–145.
54. *Computational complexity of the distance constrained labeling problem for trees,*
 coauthored with Peter A. Golovach and Jan Kratochvíl,

- Automata, Languages and Programming, 35th ICALP '08, Reykjavik, Iceland (2008), LNCS 5125, Springer, pp. 294–305.
55. *Distance constrained labelings of trees*, coauthored with Peter A. Golovach and Jan Kratochvíl, Theory and Applications of Models of Computation, 5th TAMC '08, Xi'an, China (2008), LNCS 4978, Springer, pp. 125–135.
 56. *Comparing universal covers in polynomial time*, coauthored with Daniël Paulusma, International Computer Science Symposium in Russia, 3rd CSR '08, Moscow, Russia, (2008), LNCS 5010, Springer, pp. 158–167.
 57. *Block transitivity and degree matrices: (Extended abstract)*, coauthored with José Soto, Electronic Notes in Discrete Mathematics, **28** (2007), pp. 77–82.
 58. *Locally injective graph homomorphism: Lists guarantee dichotomy*, coauthored with Jan Kratochvíl, Graph-Theoretical Concepts in Computer Science, 32nd WG '06, Bergen, Norway, (2006), LNCS 4271, Springer, pp. 15–26.
 59. *Independence and coloring problems on intersection graphs of disks*, coauthored with Thomas Erlebach, Approximation Algorithms in Combinatorial Optimization, (2006), LNCS 3484, Springer, pp. 135–155.
 60. *Algorithms for comparability of matrices in partial orders imposed by graph homomorphisms*, coauthored with Daniël Paulusma, Jan Arne Telle, Graph-Theoretical Concepts in Computer Science, 31st WG '05, Metz, France, (2005), LNCS 3787, Springer, pp. 115–126.
 61. *On the Computational Complexity of the $L(2,1)$ -Labeling Problem for Regular Graphs*, coauthored with Jan Kratochvíl, Theoretical Computer Science, 7th ICTCS '01, Siena (2005), LNCS 3701, Springer, pp. 228–236.
 62. *Matrix and graph orders derived from locally constrained graph homomorphisms*, coauthored with Daniël Paulusma, Jan Arne Telle, Mathematical Foundations of Computer Science, 30th MFCS '05, Gdansk, Poland, (2005), LNCS 3618, Springer, pp. 340–351.
 63. *On the computational complexity of partial covers of Theta graphs*, coauthored with Jan Kratochvíl, Attila Pór, Electronic Notes in Discrete Mathematics, **19** (2005), pp. 79–85.
 64. *Distance constrained labelings of graphs of bounded treewidth*, coauthored with Petr Golovach, Jan Kratochvíl, Automata, Languages and Programming, 32nd ICALP '05, Lisbon, Portugal (2005), LNCS 3580, Springer, pp. 360–372.

65. *Elegant distance constrained labelings of trees*,
coauthored with Petr A. Golovach, Jan Kratochvíl,
Graph-Theoretical Concepts in Computer Science, 30th WG '04, Bad Honnef, Germany,
(2004), LNCS 3353, Springer, pp. 58–67.
66. *The computational complexity of the role assignment problem*,
coauthored with Daniël Paulusma,
Automata, Languages and Programming, 30th ICALP '03, Eindhoven, The Netherlands
(2003), LNCS 2719, Springer, pp. 817–828.
67. *Generalized H -coloring and H -covering of trees*,
coauthored with Pinar Heggernes, Petter Kristiansen and Jan Arne Telle,
Graph-Theoretical Concepts in Computer Science, 28th WG '02, Český Krumlov (2002),
LNCS 2573, Springer, pp. 198–210.
68. *Scheduling of independent dedicated multiprocessor tasks*
coauthored with Evgenidis Bampis, Massimiliano Caramia, Aleksei V. Fishkin and Antonio
Iovanella
Algorithms and Computation, 13th ISAAC '02, Vancouver, Canada (2002) LNCS 2518,
Springer, pp. 391–402.
(submitted to Theoretical Computer Science A on May 2004)
69. *Geometric systems of disjoint representatives*,
coauthored with Jan Kratochvíl and Andrzej Proskurowski,
Graph Drawing, 10th GD'02, Irvine, California (2002), LNCS 2528, Springer, pp. 110–
117.
70. *Geometric separation and exact solutions for the parameterized independent set problem
on disk graphs*,
coauthored with Jochen Alber,
Theoretical Computer Science, IFIP 17th TCS'02, Montréal, Canada (2002), IFIP Confe-
rence Proceedings 223, Kluwer, pp. 26–37.
71. *Complexity of partial covers of graphs*,
coauthored with Jan Kratochvíl,
Algorithms and Computation, 12th ISAAC '01, Christchurch, New Zealand (2001) LNCS
2223, Springer, pp. 537–549.
72. *Distance constrained labeling of precolored trees*,
coauthored with Jan Kratochvíl and Andrzej Proskurowski,
Theoretical Computer Science, 7th ICTCS '01, Torino (2001), LNCS 2202, Springer,
pp. 285–292.
73. *On-line and off-line distance constrained labeling of disk graphs*,
coauthored with Aleksei V. Fishkin and Fedor V. Fomin,
European Symposim on Algorithms, 9th ESA '01, Århus (2001), LNCS 2161, Springer,
pp. 464–475.
74. *Graph Subcolorings: Complexity and Algorithms*,
coauthored with Klaus Jansen, Van Bang Le and Eike Seidel,
Graph-Theoretical Concepts in Computer Science, 27th WG '01, Boltenhagen (2001),
LNCS 2204, Springer, pp. 154–165.

75. *Fixed-parameter complexity of λ -labelings*,
coauthored with Ton Kloks and Jan Kratochvíl,
Graph-Theoretical Concepts in Computer Science, 25th WG '99, Ascona (1999), LNCS
1665, Springer, pp. 350–363.

Other

76. *Note on the computational complexity of covering regular graphs*,
In: WDS 2000, Prague, pp. 89–90.
77. *The packing chromatic number of the square lattice is at least 12*,
coauthored with Jan Ekstein, Přemysl Holub and Bernard Lidický
available as <http://arxiv.org/abs/1003.2291>

In preparation, or submitted for publication

78. *Dichotomy theorems for distance constrained labeling problems for trees and graphs of bounded treewidth*
coauthored with Peter A. Golovach and Jan Kratochvíl

Other publications

Conference proceedings

79. Theory and Applications of Models of Computation: (TAMC'10),
(Kratochvíl, Li, Fiala, Kolman eds.), LNCS 6108, Springer (2010), 480 pages
80. Combinatorial Algorithms: (IWOCA'09),
(Fiala, Kratochvíl, Miller eds.), LNCS 5874, Springer (2009), 480 pages
81. Mathematical Foundations of Computer Science,
(Fiala, Koubek, Kratochvíl eds.), LNCS 3153, Springer (2004), 888 pages
82. Eurocomb 2003 Abstracts
ITI Series 2003-145, ISBN-80-239-1185-6, 383 pages

Special issues

83. Colorings and structural graph theory in context (a tribute to Xuding Zhu)
Volume 91 of European Journal of Combinatorics
(Fiala, Nešetřil eds.), Elsevier (2021)
84. Volume 494 of Theoretical Computer Science related to TAMC'10
(Fiala, Kratochvíl, Li eds.), Elsevier (2013), 160 pages
85. Volume 155, issue 2 of Discrete Applied Mathematics related to MFCS'04
(Kratochvíl, Díaz, Fiala eds.), Elsevier (2006), 177 pages

Lecture notes

86. Introduction to graph minors and treewidth
ITI Series 2003-132, 43 pages

Memorial anthology

87. Na slovíčko s Bohdanem
(Fiala, Šimůnková, eds.) ITI Series 2012-555, ISBN 978-80-7378-202-2, 300 pages

Research identifiers

- ResearcherID: [I-5123-2016](#)
- ORCID ID: [0000-0002-8108-567X](#)
- Scopus Author ID: [35580076200](#)
- Google Scholar: <https://scholar.google.cz/citations?user=UD7oqQoAAAAJ>

Citations (Nov 2022)

- WOS: 575, *h*-index: 14
- Scopus: 910, *h*-index: 17
- Google scholar: 1680, *h*-index: 22