

List of research papers

Journals

1. *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.
2. *Gaps in full homomorphism order*
coauthored with Jan Hubička and Yangjing Long
Electronic Notes in Discrete Mathematics **61** (2017), pp. 429–435.
3. *An universality argument for graph homomorphisms*
coauthored with Jan Hubička and Yangjing Long
Electronic Notes in Discrete Mathematics **49** (2015), pp. 643–649.
4. *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 [39](#).)
5. *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 [38](#).)
6. *Universality of intervals of line graph order*
coauthored with Jan Hubička and Yangjing Long
European Journal of Combinatorics **41** (2014), pp. 221–231.
7. *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.
8. *Detecting induced star-like minors in polynomial time*
coauthored with Marcin Kamiński, and Daniël Paulusma,
Journal of Discrete Algorithms **17** (2012), pp. 74–85.
9. *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 [55](#).)
10. *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 [41](#).)

11. *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 [42](#).)
12. *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 [46](#).)
13. *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 [43](#).)
14. *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.
15. *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 [53](#).)
16. *Locally Constrained Graph Homomorphisms — Structure, Complexity, and Applications*,
coauthored with Jan Kratochvíl,
Computer Science Review, **2** (2008), pp. 97–111.
17. *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 [47](#).)
18. *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 [50](#), [52](#).)
19. *The Subchromatic Index of Graphs*,
coauthored with Van Bang Le,
Tatra Mountain Mathematical Publications, **36** (2007), pp. 129–146.
20. *Cantor-Bernstein type theorem for locally constrained graph homomorphisms*,
coauthored with Jana Maxová,
European Journal of Combinatorics, **27**(7) (2006), pp. 1111–1116.
21. *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 [56](#).)
22. *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.

23. *Generalized list T -colorings of cycles*
coauthored with Riste Škrekovski,
Discrete Applied Mathematics, **148**(1) (2005), pp. 13–25.
24. *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 [59,62.](#))
25. *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 [63.](#))
26. *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.
27. *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 [60.](#))
28. *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 [57.](#))
29. *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 [64.](#))
30. *NP completeness of extendability of the edge coloring on bipartite graphs*,
Journal of Graph Theory, **43** (2003), pp. 156-160.
31. *On-line coloring of geometric intersection graphs*,
coauthored with Thomas Erlebach,
Computational Geometry: Theory and Applications, **23**(2) (2002), pp. 243–255.
32. *Partial covers of graphs*,
coauthored with Jan Kratochvíl,
Discussiones Mathematicae Graph Theory, **22**(1) (2002), pp. 89–99.
33. *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 [65.](#))
34. *Computational complexity of covering cyclic graphs*,
Discrete Mathematics, **235** (2001), pp. 87–94.

Referred conference proceedings

35. *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-Verlag, pp. 24–37.
36. *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 Verlag, pp. 67–78.
37. *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 Verlag, pp. 489–501.
38. *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 Verlag, pp. 127–138.
39. *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 Verlag, pp. 121–132.
40. *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 Verlag, pp. 310–321.
41. *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.
42. *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 Verlag, pp. 221–230.
43. *Complexity of the packing coloring problem of trees,*
 coauthored with Peter A. Golovach,
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44. *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 Verlag, pp. 294–305.
45. *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 Verlag, pp. 125–135.
 46. *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 Verlag, pp. 158–167.
 47. *Block transitivity and degree matrices: (Extended abstract)*, coauthored with José Soto, Electronic Notes in Discrete Mathematics, **28** (2007), pp. 77–82.
 48. *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 Verlag, pp. 15–26.
 49. *Independence and coloring problems on intersection graphs of disks*, coauthored with Thomas Erlebach, Approximation Algorithms in Combinatorial Optimization, (2006), LNCS 3484, Springer Verlag, pp. 135–155.
 50. *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 Verlag, pp. 115–126.
 51. *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 Verlag, pp. 228–236.
 52. *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 Verlag, pp. 340–351.
 53. *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.
 54. *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 Verlag, pp. 360–372.

55. *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,
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56. *The computational complexity of the role assignment problem*,
coauthored with Daniël Paulusma,
Automata, Languages and Programming, 30th ICALP '03, Eindhoven, The Netherlands
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57. *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 Verlag, pp. 198–210.
58. *Scheduling of independent dedicated multiprocessor tasks*
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Iovanella
Algorithms and Computation, 13th ISAAC '02, Vancouver, Canada (2002) LNCS 2518,
Springer Verlag, pp. 391–402.
(submitted to Theoretical Computer Science A on May 2004)
59. *Geometric systems of disjoint representatives*,
coauthored with Jan Kratochvíl and Andrzej Proskurowski,
Graph Drawing, 10th GD'02, Irvine, California (2002), LNCS 2528, Springer Verlag, pp. 110–
117.
60. *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.
61. *Complexity of partial covers of graphs*,
coauthored with Jan Kratochvíl,
Algorithms and Computation, 12th ISAAC '01, Christchurch, New Zealand (2001) LNCS
2223, Springer Verlag, pp. 537–549.
62. *Distance constrained labeling of precolored trees*,
coauthored with Jan Kratochvíl and Andrzej Proskurowski,
Theoretical Computer Science, 7th ICTCS '01, Torino (2001), LNCS 2202, Springer Ver-
lag, pp. 285–292.
63. *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
Verlag, pp. 464–475.
64. *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 Verlag, pp. 154–165.

65. *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 Verlag, pp. 350–363.

Other

66. *Note on the computational complexity of covering regular graphs*,
In: WDS 2000, Prague, pp. 89–90.
67. *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

68. *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

69. Theory and Applications of Models of Computation: (TAMC'10),
(Kratochvíl, Li, Fiala, Kolman eds.), LNCS 6108, Springer Verlag (2010), 480 pages
70. Combinatorial Algorithms: (IWOCA'09),
(Fiala, Kratochvíl, Miller eds.), LNCS 5874, Springer Verlag (2009), 480 pages
71. Mathematical Foundations of Computer Science,
(Fiala, Koubek, Kratochvíl eds.), LNCS 3153, Springer Verlag (2004), 888 pages
72. Eurocomb 2003 Abstracts
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73. Volume 494 of Theoretical Computer Science related to TAMC'10
(Fiala, Kratochvíl, Li eds.), Elsevier (2013), 160 pages
74. Volume 155, issue 2 of Discrete Applied Mathematics related to MFCS'04
(Kratochvíl, Díaz, Fiala eds.), Elsevier (2006), 177 pages

Lecture notes

75. Introduction to graph minors and treewidth
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76. Na slovíčko s Bohdanem
(Fiala, Šimůnková, eds.) ITI Series 2012-555, ISBN 978-80-7378-202-2, 300 pages

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Citations

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