

# PUBLICATIONS

## Dalibor Froncek

### Publications:

#### A. Dissertations:

1. *Pseudomedians in graphs*, RNDr. thesis, Comenius University Bratislava, 1980
2. *Graphs with given neighbourhoods*, CSc. dissertation, Comenius University Bratislava, 1992.
3. *Decompositions of complete multipartite graphs and group divisible designs into isomorphic factors*, Ph.D. dissertation, McMaster University, Hamilton, 1994.

#### B. Articles in refereed journals:

1. *Locally linear graphs*, Math. Slovaca, **39**, 1989, pp. 3–6.
2. *Locally path-like graphs*, Čas. pěst. mat., **114**, 1989, pp. 176–180.
3. *Graphs with a given edge neighbourhood*, Czechoslovak Math. Journ., **39**, 1989, pp. 627–63.
4. *On graphs with prescribed edge neighbourhoods*, CMUC, **30**, 1989, pp. 749–754.
5. *Graphs with near  $v$ - and  $e$ -neighbourhoods*, Glasgow Math. Journ., **32**, 1990, pp. 197–199.
6. *Edge realizable graphs with universal vertices*, Glasgow. Math. Journ., **33**, 1991, pp. 309–310.
7. *Graphs with constant neighbourhoods of two independent vertices*, Quart. Journ. of Math. Oxford (2), **43**, 1992, pp. 313–317.
8.  *$e$ -Locally acyclic graphs*, Applicationes Mathematicae, **21**, 3, 1992, pp. 437–440.
9.  *$e$ -Realization of double-stars*, Discr. Math., **126**, 1994, pp. 399–402.
10. *Graphs with dense constant neighbourhoods*, JCMCC, **18**, 1995, pp. 145–150.
11. *Testing samples of three independent groups*, Radioengineering, **4**, 1995, No. 4, pp. 16–19.
12. *Decompositions of complete multipartite graphs into selfcomplementary factors with finite diameters*, Australas. J. Combin., **13**, 1996, pp. 61–74.
13. (with A. Rosa and J. Širáň), *The existence of self-complementary circulant graphs*, Europ. J. Combinatorics, **17**, 1996, pp. 625–628.
14. *Decompositions of complete bipartite and tripartite graphs into selfcomplementary factors with finite diameters*, Graphs Combin., **12**, 1996, pp. 305–320.
15. *Almost self-complementary factors of complete bipartite graphs*, Discr. Math., **167/168**, 1997, pp. 317–327.
16. *Decompositions of complete multipartite graphs into disconnected selfcomplementary factors*, Utilitas Mathematica, **53**, 1998, pp. 201–216.
17. *2-halvable complete 4-partite graphs*, Discussiones Mathematicae Graph Theory, **18 (2)**, 1998, pp. 233–242.
18. *Note on cyclic decompositions of complete bipartite graphs into cubes*, Discussiones Mathematicae Graph Theory, **19 (2)**, 1999, pp. 219–227.
19. *Disconnected self-complementary factors of almost complete tripartite graphs*, Utilitas Mathematica, **56**, 1999, pp. 107–116.
20. (with M. Meszka) *Halving transversal designs*, J. Comb. Designs, **8 (2)**, 2000, pp. 83–99.

21. (with J. Širáň) *Halving complete 4-partite graphs*, *Ars Combinatoria*, **55**, 2000, pp. 43–63.
22. (with A. Rosa) *Symmetric graph designs on friendship graphs*, *J. Comb. Designs*, **8 (3)**, 2000, pp. 201–206.
23. *Note on seed graphs with components of given order*, *AMUC*, **LXIX (1)**, 2000, 77–83.
24. *Range of diameters of complementary factors of almost complete tripartite graphs*, *Utilitas Mathematica*, **57** (2000), pp. 211–225.
25. (with J.H. Dinitz) *Scheduling the XFL*, *Congressus Numerantium*, **147**, 2000, pp. 5 – 15.
26. (with M. Kubesa) *Note on a multiple-key multiple-lock security problem*, *Transactions of the Technical University Ostrava*, **I (1)**, 2001, pp. 77–84.
27. (with F. Franek and A. Rosa) *Imbalance in tournament designs*, *Australas. J. Combin.*, **23**, 2001, pp. 237–251.
28. *On seed graphs with more than two components*, *Discr. Math.*, **233** (1–3), 2001, pp. 115–126.
29. *Self-complementary factors of almost complete tripartite graphs of even order*, *Discr. Math.*, **236** (1–3), 2001, pp. 111–122.
30. *Scheduling Czech National Basketball League*, *Congressus Numerantium*, **153**, 2001, pp. 5–24.
31. *3-halvable almost complete tripartite graphs*, *Opuscula Mathematica*, **21**, 2001, pp. 43–57.
32. *Cyclic type factorizations of complete bipartite graphs into hypercubes*, *Australas. J. Combin.*, **25**, 2002, pp. 201–209.
33. (with M. Kubesa) *Factorizations of complete graphs into spanning trees*, *Congressus Numerantium*, **154**, 2002, pp. 125–134.
34. (with D. Archdeacon, R. Jajcay, J. Širáň, Z. Ryjáček) *Regular clique covers of graphs*, *Australas. J. Combin.*, **27**, 2003, pp. 307–316.
35. (with Z. Ryjáček and Z. Skupień) *On traceability and 2-factors in claw-free graphs*, *Discussiones Mathematicae Graph Theory*, **24** (2004), 55–71.
36. *Cyclic decompositions of complete graphs into spanning trees*, *Discussiones Mathematicae Graph Theory*, **24** (2004), 345–353.
37. (with D. Archdeacon, J. Ellis-Monaghan, D. Fisher, P.C.B. Lam, S. Seager, B. Wei, and R. Yuster) *Some remarks on domination*, *Journal of Graph Theory*, **46 Vol. 3** (2004), 207–210.
38. (with S. Winters) *Another class of gracious bipartite graphs*, *Congressus Numerantium*, **168** (2004), 65–70.
39. (with T. Kovarova and P. Kovar) *Vertex magic total labeling of products of cycles*, *Australas. J. Combin.*, **33** (2005), 169–181.
40. *Orthogonal double covers of complete graphs by lobsters of diameter 4*, *Congressus Numerantium*, **177** (2005), 25–32.
41. (with B. Stevens) *Another Anti-Oberwolfach Solution: Pancomponented 2-factorizations of complete graphs*, *Discr. Math.*, **299** (2005), 99–112.
42. *Note on factorizations of complete graphs into caterpillars with small diameters*, *JCMCC*, **57** (2006), 179–186.
43. (with U. Leck) *Orthogonal double covers of complete graphs by fat caterpillars*, *Discussiones Mathematicae—Graph Theory*, **26** (2006), 343–350.
44. (with T. Kovarova and P. Kovar) *Fair incomplete tournaments*, *Bull. ICA*, **48** (2006), 31–33.
45. (with J. Jerebic, S. Klavzar, and P. Kovar) *Strong isometric dimension, biclique coverings, and Sperner's Theorem*, *Combinatorics, Probability, and Computing*, **16 (02)** (2007), 271–275.

46. (with M. Meszka) *The Cheesecake Factory Problem*, *Congressus Numerantium*, **182** (2006), 5–10.
47. *Bi-cyclic decompositions of complete graphs into spanning trees*, *Discr. Math.*, **303** (2007), 1317–1322.
48. (with T. Kovarova) *2n-cyclic labeling of graphs*, *Ars Combinatoria*, **83** (2007), 129–144.
49. *Orthogonal double covers of complete graphs by caterpillars of diameter 5*, *Graphs and Combinatorics*, **23(2)** (2007), 145–163.
50. (with S. Bezrukov, P. Kovar, and S. Rosenberg) *On biclique coverings*, *Discr. Math.*, **308** (2008), 319–323.
51. *Fair incomplete tournaments with odd number of teams and large number of games*, *Congressus Numerantium*, **187** (2007), 83–89.
52. *Product rosy labeling of graphs*, *Discussiones Mathematicae—Graph Theory* **28** (3) (2008), 431–440.
53. *Orthogonal double covers of complete graphs by lobsters of diameter 5*, *JCMCC*, **66** (2008), 129–134.
54. *Oberwolfach rectangular table negotiation problem*, *Discr. Math.* **309** (2009), 501–504.
55. *Recent advances in Rosa-type labeling of graphs* (invited survey paper), *AKCE International Journal of Graphs and Combinatorics* **6(1)** (2009), 69–78.
56. (with S. Cichacz) *Factorization of  $K_{n,n}$  into  $(0, j)$ -prisms*, *Information Processing Letters* **109** (2009), 932–934.
57. (with S. Cichacz, A. Khodkar, and Wenjie Xu) *Super edge-graceful labeling of paths*, *Bull. ICA* **57** (2009), 79–90.
58.  $\alpha_2$ -labeling of graphs, *Opuscula Mathematica*, **29(4)** (2009), 393–397.
59. (with K.A. Sugeng, M. Miller, J. Ryan, J. Walker) *On distance magic labeling of graphs*, *Journal of Combinatorial Mathematics and Combinatorial Computing*, **71** (2009), 39–48.
60. *Cyclic decompositions of complete graphs into  $K_{k,m}+e$ : The missing case*, *Congressus Numerantium*, **198** (2009), 111–118.
61. (with P. Kovar, T. Kovarova, and M. Kubesa) *Factorizations of complete graphs into caterpillars of diameter 5*, *Discr. Math.* **310** (2010), 537–556.
62. (with P. Kovar and M. Kubesa) *Decomposition of complete graphs into blown-up cycles  $C_m[2]$* , *Discr. Math.*, **310** (2010) 1003–1115.
63. *Decomposition of complete graphs into small rosy graphs*, *Opuscula Mathematica*, **30/3** (2010), 277–280.
64. (with S. Cichacz) *Bipartite graphs decomposable into closed trails*, *J. Combin. Math. Combin. Comput.* **74** (2010), 207–216.
65. (with M. Meszka) *Factorizations of complete graphs into long double brooms*, *Congressus Numerantium*, **206** (2010), 151–155.
66. (with P. Kovar and M. Kubesa) *Factorizations of complete graphs into trees with at most four non-leave vertices*, *Graphs and Combinatorics*, **27** (2011), 621–646.
67. (with M. Kubesa) *Rectangular negotiating table problem revisited*, *Cent. Eur. J. Math.* **9(5)** (2011), 1114–1120.
68. (with P. Kovar and T. Kovarova) *Constructing distance magic graphs from regular graphs*, *J. Combin. Math. Combin. Comput.* **78** (2011), 349–354.
69. (with L. Tollefson) *Decompositions of complete graphs into kayak paddles with two odd cycles*, *Congressus Numerantium*, **207** (2011), 161–169.
70. (with L. Tollefson) *Decompositions of complete graphs into kayak paddles*, *Journal of the Indonesian Mathematical Society*, Special Edition 2011, 39–44.

71. (with S. Arumugam and N. Kamatchi) *Distance Magic Graphs—A Survey*, Journal of the Indonesian Mathematical Society, Special Edition 2012, 11–26.
72. (with P. Kovar and T. Kovarova) *A note on 4-regular distance magic graphs*, Australasian J. of Combinatorics, **54** (2012), 127–132.
73. (with S. Cichacz and M. Meszka) *Decomposition of complete graphs into small bipartite prisms*, Congressus Numerantium, **211** (2012), 133–140.
74. (with S. Cichacz and P. Kovar) *Decomposition of complete bipartite graphs into generalized prisms*, European J. of Combinatorics, **34** (2013), 104–110.
75. *Group distance magic labeling of  $C_k \square C_m$* , Australasian J. of Combinatorics, **55** (2013), 167–174.
76. *Handicap distance antimagic graphs and incomplete tournaments*, AKCE Int. J. Graphs Comb., **10**, No. 2 (2013), 119–127.
77. (with G.A. Saputri and K.A. Sugeng) *The odd harmonious labeling of dumbbell and generalised prism graphs*, AKCE Int. J. Graphs Comb., **10**, No. 2 (2013), 221–228.
78. (with S. Cichacz and M. Meszka) *Decomposition of complete graphs into small generalized prisms*, AKCE International Journal of Graphs and Combinatorics **10** No. 3 (2013), 285–293.
79. *Incomplete tournaments and handicap distance antimagic graphs*, Congressus Numerantium, **217** (2013), 93–99.
80. (with A. Hlavacek, and S. Rosenberg) *Edge reconstruction and the swapping number of a graph*, Australasian J. of Combinatorics, **58** (2014), 1–15.
81. (with S. Cichacz and S. Dib) *Decomposition of complete graphs into  $(0, 2)$ -prisms*, Czechoslovak Math. J., **64** (139) (2014), 37–43.
82. (with O. Kingston, K. Vezina) *Alpha labelings of straight simple polyominal caterpillars*, Congressus Numerantium **222** (2014), 57–64.
83. (with S. Cichacz, K. Sugeng, Sanming Zhou) *Group distance magic and antimagic graphs (extended abstract)*, Electronic Notes in Discrete Mathematics **48** (2015) 41–48.
84. (with S. Cichacz) *Distance magic circulant graphs*, Discrete Math, **339** (2016), 84–94.
85. *Alpha labelings of full hexagonal caterpillars*, AKCE Int. J. Graphs. Comb., **13** (2016), 85–89.
86. (with S. Cichacz, E. Krop, C. Raridan) *Distance magic Cartesian products of graphs*, Discussiones Mathematicae—Graph Theory, **36** (2) (2016), 299–308.
87. (with A. Shepanik) *Regular handicap tournaments of high degree*, J. Algebra Comb. Discrete Struct. Appl., **3**(3), 2016, 159–164.
88. (with S. Cichacz, K. Sugeng, Sanming Zhou) *Group distance magic and antimagic graphs (full paper)*, Acta Mathematica Sinica, **32**(10) (2016), 1159–1176.
89. *Regular incomplete tournaments with handicap two*, Congressus Numerantium, **227** (2016), 277–285.
90. (with S. Cichacz and I. Singgih), *Vertex magic total labelings of 2-regular graphs*, Disc. Math., **340** (2017), 3117–3124.
91. *Decomposition of certain complete bipartite graphs into prisms*, Discussiones Mathematicae—Graph Theory, **37** (2017), 55–62.
92. *Magic rectangle sets of odd order*, Australas. J. Combin., **67**(2) 2017, 345–351.
93. *A note on incomplete regular tournaments with handicap two of order  $n \equiv 8 \pmod{16}$* , Opuscula Mathematica, **37**(4) 2017, 557–566.
94. (with P. Kovar, T. Kovarova, B. Krajc, M. Kravcenko, A. Shepanik, A. Silber) *On regular handicap graphs of even order*, Electronic Notes in Discrete Mathematics **60** (2017), 69–76.

95. (with P. Kovar and T. Kovarova) *Note on a conjecture of Marimuthu et al.*, 1 page, J. Graph Labeling, submitted December 2015, accepted February 2016
96. *Regular handicap graphs of odd order*, J. Combin. Math. Combin. Comput., **102** (2017), 253–266.
97. (with W. Keith and D. Kreher) *On nearly platonic graphs*, Australasian J. Combin., **70(1)** (2017), 86–103.
98. *Full spectrum of regular incomplete 2-handicap tournaments of order  $n \equiv 0 \pmod{16}$* , 9 pages, submitted to J. Combin. Math. Combin. Comput. January 2017, accepted August 2017
99. (with S. Cichacz-Przenioslo and B. Freyberg) *Orientable  $Z_n$ -distance magic graphs*, submitted to *Discussiones Mathematicae—Graph Theory*, February 2017, accepted September 2017

### C. Articles in Conference Proceedings (refereed):

100. *Realizability of some starlike trees*, Fourth Czechoslovakian Symposium on Combinatorics, Graphs and Complexity, Elsevier Science Publishers, 1992, 81–83.
101. *Parallel testing of two triples*, DDECS '97 (Proceedings of the International Conference on Design and Diagnostics of Electronic Circuits and Systems), 1997, 127–131.
102. *Neighbourhood-symmetric graphs*, Proceedings of the Seventh International Conference in Graph Theory, Combinatorics, Algorithms and Applications, John Wiley and Sons, 1995, 413–424.
103. *Note on a halvable group divisible design*, Proceedings of the International Conference "60th Anniversary of the Faculty of Civil Engineering at the Slovak Technical University", 1998, 197–200.
104. (with M. Cohen and C. Colbourn) *Cluttered orderings for the complete graph*, COCOON 2001, Guilin, China, Lecture Notes in Computer Science 2108 (2001), 420–431.
105. (with M. Meszka) *Round Robin Tournaments with No Breaks in Home-Away Patterns (extended abstract)*, Proceedings of MISTA 2003 — The 1st Multidisciplinary International Conference on Scheduling: Theory and Applications, Nottingham, UK (2003), 602–603.
106. (with M. Meszka) *Round robin tournaments with one bye and no breaks in home-away patterns are unique*, in: *Multidisciplinary Scheduling: Theory and Applications* (Graham Kendall, Edmund K. Burke, Sanja Petrovic, Michel Gendreau; eds.) Springer, (2005), 331–340.
107. (with P. Kovar and M. Kubesa) *Spanning factors with a given diameter and their application in ad-hoc networks*, extended abstract, Proceedings of the International Conference on Mathematics and Computer Science 2009, Chennai, India, Scitech Publications (India) PVT. Ltd (2009), INV 12–17.
108. (with S. Cichacz and P. Kovar) *Note on decomposition of  $K_{n,n}$  into  $(0, j)$ -prisms (Extended Abstract)*, Proceedings of IWOCA 09 (International Workshop on Combinatorial Algorithms, Hradec nad Moravici 2009), 199–204.
109. (with S. Cichacz and P. Kovar) *Note on decomposition of  $K_{n,n}$  into  $(0, j)$ -prisms, (full paper)*, in: J. Fiala, J. Kratochvil, M. Miller (Eds.) IWOCA 2009, Lecture Notes in Computer Science 5874, Springer-Verlag, Berlin Heidelberg, 125–133.
110. (with A. Shepanik, P. Kovar, M. Kravcenko, A. Silber, T. Kovarova, B. Krajc) *On regular handicap graphs of even order (survey paper)*, in: *9th International Workshop on Graph Labelings (IWOGL 2016)*, Electron. Notes Discrete Math. **60**, Elsevier Sci. B. V., Amsterdam, 2017, 69–76.

### D. Book Chapters:

111. (with J. Dinitz, E. Lamken, W. Wallis) *Scheduling a Tournament*, section in "The CRC Handbook of Combinatorial Designs", C. Colbourn, J. Dinitz (Eds.), CRC Press, 2006
112. *Scheduling a Tournament*, chapter in "Mathematics and Sports" (Joseph A. Gallian, Ed.), Dolciani Mathematical Expositions #43, Mathematical Association of America, 2010

**E. Submitted Articles:**

113. (with J. McKeown, J. McKeown, M. McKeown) *Vertex-magic edge  $Z_{2nm}$ -labeling of  $C_n \times C_m$* , 15 pages, submitted to *Australasian J. Combin.*, September 2017.
114. (with A. Shepanik) *Regular handicap graphs of order  $n \equiv 0 \pmod{8}$* , submitted to *El. J. Graph Th. Applic.*, 8 pages, November 2017.

**F. Technical Reports:**

115. *Improved draw tables*, Technical Report, Czech Soccer Association, 1998 (19 pages).
116. *Construction of improved draw tables for sports competitions scheduling*, Technical Report, Technical University Ostrava, 1998 (24 pages).
117. *UEFA CUP — Outline of the new rules for the compilation of the ranking list and the coefficients for seeding*, Technical Report, Technical University Ostrava, 1998 (8 pages).

**G. Textbooks:**

*Introduction to Graph Theory (in Czech)*, Silesian University Opava, 1999.

**Invited Lectures:**

- |      |                  |   |
|------|------------------|---|
| 2002 | Houghton         | <i>Balanced schedules of round robin tournaments</i> , Michigan Technological University, Mathematical Sciences Awards Banquet  |
| 2003 | Las Vegas        | <i>So you want to schedule a tournament...</i> , The Seventeenth Midwest Conference on Combinatorics, Cryptography and Computing  |
| 2004 | Vysne Ruzbachy   | <i>Incomplete and non-compact round robin tournaments</i> , Czech-Slovak Conference GRAPHS 2004   |
| 2006 | Banska Bystrica  | <i>Non-traditional round robin tournaments</i> , Matej Bel University, Banska Bystrica, Slovakia  |
| 2007 | Brno             | <i>Want to schedule an (un)fair tournament</i> , Masaryk University, Brno, Czech Republic   |
| 2008 | Pilsen           | <i>Magic-type labelings and tournament scheduling</i> , Combinatorics Seminar of the Department of Mathematics, University of West Bohemia in Pilsen, Czech Republic  |
| 2008 | Krynica          | <i>Labelings and decompositions</i> , Kraków Workshop on Graph Theory "3 in 1"  |
| 2009 | Chennai          | <i>Spanning factors with a given diameter and their applications to ad-hoc networks</i> , invited lecture, 2 <sup>nd</sup> International Conference on Mathematics and Computer Science, Loyola College, Chennai, India   |
| 2009 | Tamil Nadu       | <i>Recent advances in Rosa-type labelings of graphs</i> , invited lecture, 5 <sup>th</sup> International Workshop on Graph Labelings 2009, Kalasalingam University, India   |
| 2010 | Cochin           | <i>Incomplete round-robin tournaments and distance magic labelings</i> , invited lecture, Special Session on Graph Labelings at the Satellite Conference of the International Congress of Mathematicians "International Conference on Recent Trends in Graph Theory and Combinatorics", Cochin, India |
| 2011 | Las Vegas        | <i>Group distance magic labelings</i> , keynote lecture, 25 <sup>th</sup> Midwestern Conference on Combinatorics, Cryptography, and Computing in Las Vegas  |
| 2011 | Krynica          | <i>Distance magic and group distance magic graphs</i> , 20 <sup>th</sup> International Workshop on Graph Theory "3 in 1" Krynica, Poland  |
| 2012 | Puncak           | <i>Latest developments in distance magic labeling</i> , invited lecture, 7th International Workshop on Graph Labelings 2012, Hotel Seruni, Puncak, Indonesia  |
| 2015 | Bozi Dar         | <i>Kotzig arrays three generations later</i> , 50th Czech-Slovak Conference GRAPHS 2015   |
| 2015 | Houghton, MI     | <i>Distance magic and group distance magic graphs</i> , invited lecture, Discrete Mathematics Seminar at Michigan Technological University, Houghton, MI  |
| 2016 | Winnipeg, Canada | <i>Rosa-type labelings, graph decompositions and factorizations</i> , invited lecture, 2 <sup>nd</sup> MMMM Combinatorics Graduate Student Workshop, University of Manitoba, Winnipeg, Canada   |
| 2017 | Hamilton, Canada | <i>Decompositions of complete graphs and complete bipartite graphs into generalized prisms</i> , Advanced Optimization Laboratory invited seminar, McMaster University, Hamilton, ONT, Canada   |