

## LIST of PUBLICATIONS

Structured as in O.M. 5691/27.10.2011, Annex 1, Art. 15

### a) List of works stipulated at Article 12, (1), Letter h) - included in full in the dossier

1. O. Matei, P.C. Pop, I. Sas and C. Chira, An improved immigration memetic algorithm for solving the heterogeneous fixed fleet vehicle routing problem, *Neurocomputing*, Elsevier, Vol. 150, Part A, pp. 58-66, 2015.
2. P.C. Pop, O. Matei and C.-A. Comes, Reducing the bandwidth of sparse matrix with a genetic algorithm, *Optimization*, Taylor & Francis, Vol. 63(4), pp. 1851-1876, 2014.
3. M. Demange, J. Monnot, P.C. Pop and B. Ries, On the complexity of the selective graph coloring problem in some special classes of graphs, *Theoretical Computer Science*, Elsevier, Vol. 540-541, pp. 82-102, 2014.
4. P.C. Pop, O. Matei and C. Pop Sitar, An improved hybrid algorithm for solving the generalized vehicle routing problem, *Neurocomputing*, Elsevier, Vol. 109, pp. 76-83, 2013.
5. P.C. Pop and O. Matei, A memetic algorithm for solving the multidimensional multi-way number partitioning problem, *Applied Mathematical Modelling*, Elsevier, Vol. 37, Issue 22, pp. 9191-9202, 2013.
6. O. Matei, P.C. Pop and H. Valean, Optical Character Recognition in Real Environments using Neural Networks and k-Nearest Neighbor, *Applied Intelligence*, Springer, Vol. 39(4), pp. 739-748, 2013.
7. P.C. Pop, I. Kara and A. Horvat Marc, New Mathematical Models of the Generalized Vehicle Routing Problem and Extensions, *Applied Mathematical Modelling*, Elsevier, Vol. 36, Issue 1, pp. 97-107, 2012.
8. P.C. Pop and S. Iordache, A Hybrid Heuristic Approach for Solving the Generalized Traveling Salesman Problem, in *Proc. of GECCO 2011*, Association for Computing Machinery, pp. 481-488, 2011, ISBN: 978-1-4503-0557-0.
9. P.C. Pop, On the Prize-Collecting Generalized Minimum Spanning Tree Problem, *Annals of Operations Research*, Springer, Vol. 150, No. 1, pp. 193-204, 2007.
10. P.C. Pop, W. Kern and G. Still, A New Relaxation Method for the Generalized Minimum Spanning Tree Problem, *European Journal of Operational Research*, Elsevier, Vol. 170, pp. 900-908, 2006.

#### **b) Doctoral Thesis**

1. P.C. Pop, The Generalized Minimum Spanning Tree Problem, PhD Thesis in Combinatorial optimization, Twente University Press, Enschede, the Netherlands, 2002.

#### **c) Intellectual property rights**

1. C.N. Sabo, P.C. Pop and N. Tomai, SYSTEM AND PROCESS FOR DYNAMIC GENERATION OF COMPUTER APPLICATION INTERFACES, patent number RO128876-A0, 2012.
2. C.N. Sabo, N. Tomai and P.C. Pop, SYSTEM AND PROCESS FOR THE AUTOMATIC ANALYSIS OF THE COMMUNICATION LANGUAGE BETWEEN TWO INFORMATIC SYSTEMS, patent number RO128954-A0, 2013.

#### **d) Books**

1. P.C. Pop, Generalized Network Design Problems. Modeling and Optimization, De Gruyter Series in Discrete Mathematics and Applications, Germany, 2012.
2. P.C. Pop, Modelare si Programare Matematica. Teorie si Aplicatii, Editura Universitatii de Nord Baia Mare, 2009.
3. P.C. Pop, Cercetari Operationale, Editura RisoPrint, 2005.

#### **e) 'In extenso' articles/studies published in journals from the main international scientific flux**

1. P.C. Pop, C.M. Pinteaa, C. Pop Sitar and M. Macelaru, An efficient reverse distribution system for solving a sustainable supply chain network design problem, Journal of Applied Logic, Elsevier, Vol. 13(2), Part A, pp. 105-113, 2015.
2. C.M. Pinteaa and P.C. Pop, An improved hybrid algorithm for capacitated fixed-charge transportation problem, Logic Journal of IJPL, Oxford University Press, DOI: 10.1093/jigpal/jzv014, in press.
3. L. Fuksz , P.C. Pop and I. Zelina, Heuristic algorithms for solving the bi-dimensional two-way number partitioning problem, Studia Universitatis Babes-Bolyai, Series Informatica, Vol. LVIII, No. 3, pp. 17-28, 2013.
4. P.C. Pop and C. Pop Sitar, New Models of the Generalized Fixed-Charge Network Design Problem, Carpathian Journal of Mathematics, Vol. 28, No.1, pp. 143-150, 2012.
5. P.C. Pop, C. Pop Sitar, I. Zelina, V. Lupse and C. Chira, Heuristic algorithms for solving the generalized vehicle routing problem, International Journal of Computers, Communications & Control, Vol. 6, No. 1, pp. 158-166, 2011.
6. P.C. Pop and C. Pop Sitar, A new efficient transformation of the generalized vehicle routing problem into the classical vehicle routing problem, Yugoslav Journal of Operations Research, Vol. 21, No. 2, pp. 187-198, 2011.
7. P.C. Pop, O. Matei and H. Valean, An Efficient Soft Computing Approach to the Generalized Vehicle Routing Problem, Advances in Intelligent and Soft Computing, Springer, Vol. 87, pp. 281-289, 2011.

8. P.C. Pop, O. Matei and C. Sabo, A Memetic Algorithm for Solving the Generalized Minimum Spanning Tree Problem, *Advances in Intelligent and Soft Computing*, Springer, Vol. 96, pp. 187-194, 2011.
9. P.C. Pop, O. Matei, E. Burzu and C. Gyrodi, A Computational Analysis of Heuristic Algorithms for Solving the Generalized Vehicle Routing Problem, *Journal of Computers and Control Systems*, Vol. 4, No. 1, pp. 143-149, 2011.
10. C. Pinte, C. Chira, D. Dumitrescu and P.C. Pop, Sensitive ants in solving the generalized vehicle routing problem, *International Journal of Computers, Communications & Control*, Vol. 6, No. 4, pp. 734-741, 2011.
11. P.C. Pop, On the Generalized Network Design Problems, *Carpathian Journal of Electronic and Computer Engineering*, Vol. 3, No. 1, pp. 103-107, 2010.
12. P.C. Pop, A survey of different integer programming formulations of the generalized minimum spanning tree problem, *Carpathian Journal of Mathematics*, Vol. 25, No. 1, pp. 104-118, 2009.
13. P.C. Pop, C. Pop Sitar, A. Horvat Marc and I. Zelina, A local-global approach to the Generalized Minimum Spanning Tree Problem, *Analele Universitatii din Timisoara, seria Matematica-Informatica*, Fasc. 2, Vol. XLVII, pp. 117-126, 2009.
14. C.M. Pinte, D. Dumitrescu and P.C. Pop, Combining heuristics and modifying local information to guide ant-based search, *Carpathian Journal of Mathematics*, Vol. 24, No. 1, pp. 94-103, 2008.
15. P.C. Pop, C.D. Zaroliagis and G. Hadjicharalambous, A cutting plane approach to solve the railway traveling salesman problem, *Studia Univ. Babes-Bolyai, Mathematica*, Volume LIII, Number 1, pp. 63-73, March 2008.
16. P.C. Pop, New integer programming formulations of the generalized traveling salesman problem, *American Journal of Applied Sciences*, Vol. 4(11), pp. 932-937, 2007.
17. C. Pinte, P.C Pop and C. Chira, The Generalized Traveling Salesman Problem Solved with Ant Algorithms, *Journal of Universal Computer Science*, vol. 13, No. 7, pp. 1065-1075, 2007.
18. P.C. Pop, C. Sabo, C. Pop Sitar and M. Craciun, A Simulated Annealing Based Approach for Solving the Generalized Minimum Spanning Tree Problem, *Creative Mathematics and Informatics*, Vol. 16, pp. 42-53, 2007.
19. P.C. Pop, A. Horvat Marc and C. Pop Sitar, An Approximation Algorithm for the At Least version of the Generalized Minimum Spanning Tree Problem, *Revue d'Analyse Numerique et de Theorie de l'Approximation*, Tome 35, No. 1, pp. 95-103, 2006.
20. P.C. Pop, A Lagrangian Relaxation Approach to the Generalized Minimum Spanning Tree Problem, *Mathematica*, Tome 48(71), No. 2, pp. 191-201, 2006.
21. P.C. Pop, A. Horvat Marc and C. Pop Sitar, The At Least version of the Generalized Minimum Spanning Tree Problem, *Carpathian Journal of Mathematics*, Vol. 22, No. 1-2, pp. 129-135, 2006.

22. P.C. Pop, Approximation Theory in Combinatorial Optimization. Application to the Generalized Minimum Spanning Tree Problem, *Revue d'Analyse Numérique et Approximation*, Tome 34, No. 1, pp. 93-102, 2005.
23. P.C. Pop and G. Still, An easy way to obtain strong duality results in linear semidefinite and linear semiinfinite programming, *Mathematica*, Tome 47(70), No. 1, pp. 105-112, 2005.
24. P.C. Pop, On some polynomial solvable cases of the generalized minimum spanning tree problem, *Acta Universitatis Apulensis*, No. 10, pp. 189-195, 2005.
25. P.C. Pop, New Models of the Generalized Minimum Spanning Tree Problem, *Journal of Mathematical Modelling and Algorithms*, Vol. 3, Issue 2, pp. 153-166, 2004.
26. P.C. Pop and C. Pop Sitar, A note on the complexity of the Generalized Minimum Spanning Tree Problem, *Studia Universitatis Babeş-Bolyai, Series Informatics*, Volume XLIX, Number 2, pp. 75-80, 2004.
27. P.C. Pop, C. Pop Sitar and I. Zelina, Efficient Algorithms for the Generalized Minimum Spanning Tree Problem, *Carpathian Journal of Mathematics*, Vol. 20, No. 1, pp. 109-117, 2004.
28. P.C. Pop, W. Kern and G. Still, Relaxation Methods for the Generalized Minimum Spanning Tree Problem, *Electronic Notes in Discrete Mathematics*, Vol. 8, pp. 76-79, 2001.
29. P.C. Pop, Polyhedral aspects and optimality of the generalized minimum spanning tree problem, *Scientific Revue of the North University of Baia Mare*, Vol. XVI. No. 1, 2000.
30. P.C. Pop, Optimal Maintenance of a Machine, *Scientific Revue of the North University of Baia Mare*, vol. XIII, pp. 131-138, 1997.

**f) 'In extenso' publications appeared in the main international scientific specialty conferences**

1. S. Fidanova and P.C. Pop, An ant algorithm for the partition graph coloring problem, *Numerical Methods and Applications, Lecture Notes in Computer Science*, Springer, Vol. 8962, pp. 78-84, 2015.
2. P.C. Pop and C. Chira, A hybrid approach based on genetic algorithms for solving the clustered vehicle routing problem, *IEEE Congress on Evolutionary Computation (CEC-2014)*, pp. 1421-1426, Beijing, China, 6-11 July 2014.
3. O. Matei, D. Contras and P.C. Pop, Applying evolutionary computation for evolutionary ontologies, *IEEE Congress on Evolutionary Computation (CEC-2014)*, pp. 1520-1527, Beijing, China, 6-11 July 2014.
4. G.C. Crisan, C.M. Pinteá and P.C. Pop, On the resilience of an ant-based system in fuzzy environments. An empirical study, *IEEE International Conference on Fuzzy Systems (FUZZ-2014)*, pp. 2588-2593, Beijing, China, 6-11 July 2014.
5. C. Pinteá and P.C. Pop, Sensitive Ants for Denial Jamming Attack on Wireless Sensor Network, in *Proc. of CISIS 2013, Advances in Intelligent Systems and Computing Volume 239*, pp. 409-418, 2014.

6. P.C. Pop, F. Levente and A. Horvat Marc, A Variable Neighborhood Search approach for solving the generalized vehicle routing problem, in Proc. of HAIS 2014, Lecture Notes in Computer Science, Vol. 8480, pp. 13-24, 2014.
7. P.C. Pop and O. Matei, An efficient metaheuristic approach for solving a class of matrix optimization problems, in Proc. of 15th EU/ME Workshop Metaheuristics and Engineering, pp. 17-25, 2014.
8. P.C. Pop, B. Hu and G.R. Raidl, A memetic algorithm with two distinct solution representations for the partition graph coloring problem, in Proc. of EUROCAST 2013, R. Moreno-Diaz et al. (Eds.), Lecture Notes Computer Science, Springer, Vol. 8111, pp. 219-227, 2013.
9. P.C. Pop and O. Matei, A genetic algorithm approach for the multidimensional two-way number partitioning problem, in Proc. of LION 7, G. Nicosia et al. (Eds.), Lecture Notes Computer Science, Springer, Vol. 7997, pp. 81-86, 2013.
10. P.C. Pop and O. Matei, Increasing the antibandwidth of sparse matrices by a genetic algorithm, in Proc. of IEA/AIE 2013, M. Ali et al. (Eds.), Lecture Notes in Artificial Intelligence, Springer, Vol. 7906, pp. 242-251, 2013.
11. L. Fuksz and P.C. Pop, A hybrid genetic algorithm with variable neighborhood search approach to the number partitioning problem, in Proc. of HAIS 2013, Lecture Notes in Computer Science, Springer, Vol. 8073, pp. 649-658, 2013.
12. S. Oniga and P.C. Pop, Application possibilities of hardware implemented hybrid neural networks to support independent life of elderly people, in Proc. of HAIS 2013, Lecture Notes in Computer Science, Springer, Vol. 8073, pp. 520-529, 2013.
13. C.-M. Pintea and P.C. Pop, Sensor Networks Security Based on Sensitive Robots Agents: A Conceptual Model, in Proc. of CISIS 2012, Advances in Intelligent Systems and Computing, Springer, Vol. 189, pp. 47-56, 2013.
14. C.-M. Pintea, P.C. Pop and M. Hajdu-Macelaru, Classical Hybrid Approaches on a Transportation Problem with Gas Emissions Constraints, in Proc. of SOCO 2012, Advances in Intelligent Systems and Computing, Springer, Vol. 188, pp. 449-458, 2013.
15. P.C. Pop, B. Hu and G.R. Raidl, A memetic algorithm for the partition coloring problem. In: Extended Abstracts of the 14th International Conference on Computer Aided Systems Theory, pp. 167-169, Gran Canaria, Spain, 2013.
16. P.C. Pop and O. Matei, A Genetic Programming Approach for Solving the Linear Ordering Problem, in Proc. of HAIS 2012, Part II, Editors E. Corchado et al., Lecture Notes in Computer Science, Springer, Vol. 7209, pp. 331-338, 2012.
17. M. Demange, J. Monnot, P.C. Pop and B. Reis, Selective Graph Coloring in Some Special Classes of Graphs, in Proc. of ISCO 2012, Lecture Notes in Computer Science, Vol. 7422, pp. 320-331, Springer, 2012.
18. C. Pintea, C. Pop Sitar, M. Hajdu-Macelaru and P.C. Pop, A Hybrid Classical Approach to a Fixed-Charge Transportation Problem, in Proc. of HAIS 2012, Part I, Editors E. Corchado et al., Lecture Notes in Computer Science, Springer, Vol. 7208, pp. 557-566, 2012.

19. O. Matei, P.C. Pop and H. Valean, A Robust Approach to Digit Recognition in Noisy Environments, in Proc. of IEA/AIE 2012, H. Jiang et al. (Eds.), Lecture Notes in Artificial Intelligence, Springer, Vol. 7347, pp. 606-615, 2012.
20. P.C. Pop and A. Horvat Marc, Local Search Heuristics for the Generalized Vehicle Routing Problem, in Proc. of ICSMO 2012, IACSIT Press, Vol. 23, pp. 84-88, 2012.
21. P.C. Pop and O. Matei, An Improved Heuristic for the Bandwidth Minimization Based on Genetic Programming, in Proc. of HAIS 2011, Part II, Editors E.S. Corchado Rodriguez et al., Lecture Notes in Artificial Intelligence, Springer, Vol. 6079, pp. 67-74, 2011.
22. S. Iordache and P.C. Pop, An Efficient Algorithm for the Generalized Traveling Salesman Problem, in Proc. of 13-th Int. Conf. on Computer Aided Systems Theory (EUROCAST 2011), Editors A. Quesada-Arencibia et al., pp. 264-267, 2011, ISBN: 978-84-693-9560-8.
23. P.C. Pop, O. Matei and C. Sabo, A New Approach for Solving the Generalized Traveling Salesman Problem, in Proc. of HM 2010, Editors M.J. Blesa et al., Lecture Notes in Computer Science, Springer, Vol. 6373, pp. 62-72, 2010.
24. P.C. Pop, O. Matei, C. Pop Sitar and C. Chira, A genetic algorithm for solving the generalized vehicle routing problem, in Proc. of HAIS 2010, Part II, Editors E.S. Corchado Rodriguez et al., Lecture Notes in Artificial Intelligence, Springer, Vol. 6077, pp. 119-126, 2010.
25. O. Matei and P.C. Pop, An efficient genetic algorithm for solving the generalized traveling salesman problem, in Proc. of 6-th IEEE International Conference on Intelligent Computer Communication and Processing, pp. 87-92, 2010.
26. P.C. Pop, C.M. Pinteaa, I. Zelina and D. Dumitrescu, Solving the Generalized Vehicle Routing Problem with an ACS-based Algorithm, American Institute of Physics, Vol. 1117, pp. 157-162, 2009, (Conf. Proc. BICS Tg. Mures 5-7 November 2008).
27. P.C. Pop, C. Pinteaa and D. Dumitrescu, An Ant Colony Algorithm for Solving the Dynamic Generalized Vehicle Routing Problem, Proc. of 5th International Conference 2009 - Dynamical Systems and Applications, June 15-18, Constanta, Romania, Ovidius University Annals Series: Civil Engineering, Vol.1 (11), pp. 373-382, 2009.
28. C.M. Pinteaa, P. C. Pop, C. Chira, D. Dumitrescu, A Hybrid Ant-based System for Gate Assignment Problem, in Proceedings of the 3-rd International Workshop on Hybrid Artificial Intelligence Systems, Burgos, Spain, Lecture Notes in Computer Science, Vol. 5271, pp. 273-280, 2008.
29. C.-M. Pinteaa, C. Chira, D. Dumitrescu, and P.C. Pop, A Sensitive Metaheuristic for Solving a Large Optimization Problem, in Proceedings of the SOFSEM Conference, Novy Smokovec, High Tatras, Slovakia, Lecture Notes in Computer Science, Vol. 4910, pp. 551-559, 2008.
30. I. Zelina, G. Moldovan and P.C. Pop, Some Communication Aspects in Extended Fibonacci Cubes, IEEE Proceedings of International Symposium on Applications and the Internet, pp. 245-248, IEEE Computer Society Press, Turku, Finland, July 28 - August 1, 2008.

31. P. Pop, C. Pop Sitar, I. Zelina and I. Tascu, Exact algorithms for generalized combinatorial optimization problems, in Proceedings of the COCOA Conference, Xi'an, China, Lecture Notes in Computer Science, Vol. 4616, pp. 154-162, 2007.
32. P.C. Pop, C. Pintea and C. Pop Sitar, An Ant colony based approach to the Railway Travelling Salesman Problem, in Proceedings of the Evo Conference, Valencia, Spain, Lecture Notes in Computer Science, Vol. 4448, pp. 702-711, 2007.
33. G. Hadjicharalambous, P.C. Pop, E. Pyrga, G. Tsaggouris and C.D. Zaroliagis, The Railway Travelling Salesman Problem, in Algorithmic Methods for Railway Optimization, Lecture Notes in Computer Science, Vol. 4359, pp. 264-275, 2007.
34. P.C. Pop, C. Pintea, C. Pop Sitar and D. Dumitrescu, A Bio-Inspired Approach for a Dynamic Railway Problem, IEEE Proceedings of the 9th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, pp. 449-453, IEEE Computer Society Press, Timisoara, Romania, September 26-29, 2007.
35. C.M. Pintea, P.C. Pop and D. Dumitrescu, An Ant-based Technique for the Dynamic Generalized Traveling Salesman Problem, 7th International Conference on Systems Theory and Scientific Computation, Athens, Greece, pp. 255-259, 2007.
36. C. Pintea, P.C. Pop and C. Chira, Reinforcing Ant Colony System for the Generalized Traveling Salesman Problem, Proceedings of International Conference Bio-Inspired Computing-Theory and Applications (BIC-TA), Wuhan, China, Vol. Evolutionary Computing Section, pp. 245-252, 2006.
37. P.C. Pop, W. Kern and G. Still, An Approximation Algorithm for the Generalized Minimum Spanning Tree Problem with bounded cluster size, Proceedings of First ACiD Conference, Text in Algorithms 4, Kings College Publications, pp. 115-122, 2005.
38. P.C. Pop and I. Zelina, Heuristic Methods for the Generalized Minimum Spanning Tree Problem, in Proceedings of International Conference on Theory and Applications of Mathematics and Informatics, Thessaloniki, Greece, 16-18 September, Acta Universitatis Apulensis, No. 8, pp. 385-396, 2004.
39. P.C. Pop, A New Method for Solving the Generalized Minimum Spanning Tree Problem, in Proceedings of European Conference on Graph Theory, Combinatorics and Applications, Prague, Czech Republic, 8-12 September, pp. 313-317, 2003.

**g) Other works and scientific contributions**

1. P.C. Pop, The Generalized Minimum Spanning Tree Polytope and Related Polytopes, Memorandum No. 1587, University of Twente, the Netherlands, 2001.
2. P.C. Pop, W. Kern and G. Still, An Approximation Algorithm for the Generalized Minimum Spanning Tree Problem with bounded cluster size, Memorandum, No. 1577, University of Twente, the Netherlands, 2001.
3. P.C. Pop, W. Kern and G. Still, The Generalized Minimum Spanning Tree Problem, Memorandum, No. 1542, University of Twente, the Netherlands, 2000.
4. P.C. Pop and G. Still, An easy way to obtain strong duality results in linear, linear semidefinite and linear semiinfinite programming, Memorandum No. 1493, University of Twente, the Netherlands, 1999.