

## PERSONAL INFORMATION



Petrică Claudiu, POP SITAR



Sex

## WORK EXPERIENCE

2015-present

**Vice-rector Technical University of Cluj-Napoca, North University Center of Baia Mare**Technical University of Cluj-Napoca, North University Center of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.utcluj.ro>

- University management
- Education quality assurance
- Teaching activity
- Research activity

2014 – present

**University Professor**Technical University of Cluj-Napoca, North University Center of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.utcluj.ro>

- Teaching activity
- Research activity

2012 – 2015

**Dean of the Faculty of Sciences**Technical University of Cluj-Napoca, North University Center of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.utcluj.ro>

- University management
- Teaching activity
- Research Activity

2008 – 2012

**Head of the Department of Informatics and Applied Mathematics**Technical University of Cluj-Napoca, North University Center of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.utcluj.ro>

- Leading the professional activities of the department
- Teaching activity
- Research activity

2006–2014

**Associate Professor**Technical University of Cluj-Napoca, North University Center of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.utcluj.ro>

- Teaching activity
- Research activity

2003 - 2006

**University Lecturer**North University of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.ubm.ro>

- Teaching activity
- Research activity

**1999 - 2003 University Assistant**

North University of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.ubm.ro>

- Teaching activity
- Research activity

**1998 - 2002 Researcher**

University of Twente, The Netherlands

- Research activity

**1996 - 1999 Teaching Assistant**

North University of Baia Mare, 62A Dr. Victor Babeş Street, 430083 Baia Mare, <http://www.ubm.ro>

- Teaching activity
- Research activity

**EDUCATION AND TRAINING**

---

**2015 Certification as PhD Advisor in the field of Informatics**

"Babeş-Bolyai" University of Cluj-Napoca, Faculty of Mathematics and Informatics  
Higher Education

**2005 Post-doctoral studies**

Technical University of Wien, Austria  
Higher Education

**2003 – 2004 Post-doctoral studies**

University of Patras, Greece  
Higher Education

**1998 – 2002 Doctorate in Informatics/Mathematics**

University of Twente, The Netherlands

- Combinatorial optimization, Operational research, The theory of algorithms, Mathematical modelling

**1997 – 1998 Master's Degree in Operational research**

University of Twente, The Netherlands

- Operational research, optimization

**1995 – 1996 Master's Degree in Mathematics**

"Babeş-Bolyai" University of Cluj-Napoca, Faculty of Mathematics and Informatics

- Optimization, approximation and convex analysis

**1991 – 1995 Bachelor's Degree in Mathematics**

"Babeş-Bolyai" University of Cluj-Napoca, Faculty of Mathematics and Informatics  
Higher Education

1987 – 1991 **Baccalaureate Diploma**  
 Gheorghe Șincai National College, Baia Mare, Romania  
 ▪ High school studies

PERSONAL SKILLS

Mother tongue (s) Romanian Language

Other language (s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English Language	EXPERIMENTED USER	EXPERIMENTED USER	EXPERIMENTED USER	EXPERIMENTED USER	EXPERIMENTED USER
French Language	INDEPENDENT USER	INDEPENDENT USER	INDEPENDENT USER	INDEPENDENT USER	INDEPENDENT USER

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Experimented user

Organisational / managerial skills

Skills in the management of teaching structures, acquired during my activities as Head of Department (2008 – 2012), Dean (2012 – 2016) and Vice-rector (2016 – present).  
 Skills in the management of research projects acquired by participating in over 20 research projects.  
 Skills in the evaluation of research projects acquired while being an evaluator for the Executive Unit for Financing Higher Education, Research, Development and Innovation (UEFISCDI), the National Council for Scientific Research in Higher Education (CNCSIS) and the National Authority for Scientific Research (ANCS).

Digital skills

SELF – ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Experimented user	Experimented user	Experimented user	Experimented user	Experimented user

Levels: Basic user - Independent user - Experimented user

Driving licence B category

ADDITIONAL INFORMATION

Representative publications

1. P.C. Pop, O. Cosma, C. Sabo, C. Pop Sitar, A comprehensive survey on the generalized traveling salesman problem, *European Journal of Operational Research*, Vol. 314(3), pp. 819-835, 2024.
2. A. Petrovan, P.C. Pop, C. Sabo, I. Zelina, Novel two-level hybrid genetic algorithms based on different Cayley-type encodings for solving the clustered shortest-path tree problem, *Expert Systems with Applications*, Vol. 215, 119372, 2023.
3. O. Cosma, P.C. Pop and C. Sabo, On the two-stage supply chain network design problem with risk-pooling and lead times, *Cybernetics and Systems*, Vol. 54(3), pp. 321-338, 2023.
4. O. Cosma, P.C. Pop and C. Pop Sitar, A two-level based genetic algorithm for solving the soft-clustered vehicle routing problem, *Carpathian Journal of Mathematics*, Vol. 38(1), pp. 117-128, 2022.
5. O. Cosma, P.C. Pop and C. Sabo, Solving a two-stage supply chain network design problem with fixed costs by a hybrid genetic algorithm, *Logic Journal of IGPL*, Vol. 30(4), pp. 622-634, 2022.

6. A. Vescan, C.M. Pinteaa and P.C. Pop, Test case prioritization – ANT algorithm with faults severity, *Logic Journal of IGPL*, Vol. 30(2), pp. 277-288, 2022.
7. O. Cosma, P.C. Pop and I. Zelina, An effective genetic algorithm for solving the clustered shortest-path tree problem, *IEEE Access*, Vol. 9, pp. 15570-15591, 2021.
8. G.C. Crisan, C.M. Pinteaa, A. Calinescu, C. Pop Sitar and P.C. Pop, Secure traveling salesman problem with intelligent transport system features, *Logic Journal of IGPL*, Vol. 29(6), pp. 925-935, 2021.
9. P.C. Pop, The generalized minimum spanning tree problem: an overview of formulations, solution procedures and latest advances, *European Journal of Operational Research*, Elsevier, Vol. 283(1), pp. 1-15, 2020.
10. O. Cosma, P.C. Pop and D. Danciulescu, A novel matheuristic approach for a two-stage transportation problem with fixed costs associated to the routes, *Computers and Operations Research*, Vol. 118, art.no. 104906, 2020.
11. C. Sabo, P.C. Pop and A. Horvat-Marc, On the Selective Vehicle Routing Problem, *Mathematics*, Vol. 8, art. No. 771, 2020.
12. O. Cosma, P.C. Pop and C. Sabo, An Efficient Hybrid Genetic Approach for Solving the Two-Stage Supply Chain Network Design Problem with Fixed Costs, *Mathematics*, Vol. 8, art. No. 712, 2020.
13. O. Cosma, P.C. Pop and I. Zelina, A novel genetic algorithm for solving the clustered shortest-path tree problem, *Carpathian Journal of Mathematics*, Vol. 36(3), pp. 401-414, 2020.
14. G.C. Crisan, C.M. Pinteaa, P.C. Pop and O. Matei, Economical connections between several European countries based on TSP data, *Logic Journal of the IGPL*, Vol. 28(1), pp. 33-44, 2020.
15. O. Cosma, P.C. Pop and D. Danciulescu, A parallel algorithm for solving a two-stage fixed-charge transportation problem, in *Press Informatica*, 2020.
16. O. Cosma, P.C. Pop and C. Sabo, Solving a two-stage supply chain network design problem with fixed costs by a hybrid genetic algorithm, *Logic Journal of the IGPL*, in Press 2020.
17. G.C. Crişan, C.M. Pinteaa, A. Calinescu, C. Pop Sitar and P.C. Pop, Secure traveling salesman problem with intelligent transport systems features, *Logic Journal of the IGPL*, in Press 2020.
18. O. Cosma, D. Danciulescu and P.C. Pop, On the two-stage transportation problem with fixed charge for opening the distribution centers, *IEEE Access*, Vol. 7(1), pp. 113684-113698, 2019.
19. P.C. Pop, O. Matei, C. Sabo and A. Petrovan, A two-level solution approach for solving the generalized minimum spanning tree problem, *European Journal of Operational Research*, Vol. 265(2), pp. 478-487, 2018.
20. P.C. Pop, L. Fuksz, A. Horvat Marc and C. Sabo, A novel two-level optimization approach for clustered vehicle routing problem, *Computers & Industrial Engineering*, Vol. 115, pp. 304-318, 2018.
21. P.C. Pop, O. Matei and C.M. Pinteaa, A two-level diploid genetic based algorithm for solving the family traveling salesman problem, in *Proc. of GECCO 2018*, Association for Computing Machinery, Kyoto, Japan, 2018.
22. P.C. Pop, C. Sabo, B. Biesinger, B. Hu and G. Raidl, Solving the two-stage fixed-charge transportation problem with a hybrid genetic algorithm, *Carpathian Journal of Mathematics*, Vol. 33, No. 3, pp. 365-371, 2017.
23. J. Suto, S. Oniga and P.C. Pop, Feature analysis to human activity recognition, *International Journal of Computers, Communications & Control*, Vol. 12, No. 1, pp. 116-130, 2017.
24. P.C. Pop, O. Matei, C. Pop Sitar and I. Zelina, A hybrid based genetic algorithm for solving a capacitated fixed-charge transportation problem, *Carpathian Journal of Mathematics*, Vol. 32, No. 2, pp. 225-232, 2016.
25. S. Fidanova and P.C. Pop, An improved hybrid ant-local search for the partition graph colouring problem, *Journal of Computational and Applied Mathematics*, Vol. 293, pp. 55-61, Elsevier, 2016.
26. P.C. Pop, C.M. Pinteaa, C. Pop Sitar and M. Hajdu-Macelaruu, An efficient reverse distribution system for solving a supply chain network design problem, *Journal of Applied Logic*, Elsevier, Vol. 13(2), Part A, pp. 105-113, 2015.
27. C.M. Pinteaa and P.C. Pop, An improved hybrid algorithm for capacitated fixed-charge transportation problem, *Logic Journal of IJPL*, Oxford University Press, Vol. 23(3), pp. 369-378, 2015.
28. 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.

29. 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.
30. M. Demange, J. Monnot, P.C. Pop and B. Ries, On the complexity of the selective graph colouring problem in some special classes of graphs, *Theoretical Computer Science*, Elsevier, Vol. 540-541, pp. 82-102, 2014.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. P.C. Pop, On the Prize-Collecting Generalized Minimum Spanning Tree Problem, *Annals of Operations Research*, Vol. 150, No. 1, pp. 193-204, 2007.
38. P.C. Pop, W. Kern and G. Still, A New Relaxation Method for the Generalized Minimum Spanning Tree Problem, *European Journal of Operational Research*, 170, pp. 900-908, 2006.

## Representative projects

1. Collaborative Framework for Smart Agriculture – COSA that received funding from Romania's National Recovery and Resilience Plan PNRR-III-C9-2022-18, under grant agreement 760070.
2. Building Trust in Ecosystems Components, EC Horizon 2020, 2020 – 2023, member of the research team.
3. Collaborative Environment for Eco Design of Product Services and Production Processes Integrating highly personalized innovative functions, funded under FP7-NMP, 2013-2017, member of the research team.
4. Hybrid bi-level optimization approaches for generalized network design problems, bilateral project between Romania and Austria, UEFISCDI, 2014-2015, project manager.
5. New hybrid metaheuristic methods for solving network design problems. PN-II-RU-TE-2011-3-0113, 750000 RON, 2011-2014 project manager.
6. The selective graph colouring problem, grant PHC Bosphore 26284RB, EGIDE, 2012-2013, member of the research team.
7. The research, development and implementation of the management of documents., ANCS, POS CCE axis, 3444000 RON, 2010-2013, member of the research team.
8. Algorithmic methods for solving combinatorial optimization problems, programul CEEX, ET34/2006 Excellence research centres program, 140000 RON, 2006-2008, project manager.
9. Mathematique et application, Programme International de Collaboration Scientifique (PICS) franco-roumain 3450, CNRS, 2006-2008, local coordinator: Recherche Operationelle: modelisation mathematique, optimisation et approche algorithmique.
10. Efficient numerical methods, with applications on supercomputers, CEEX PC-DC, No. 06-11-96/19.09.06, 2008, member of the research team.
11. Algorithmic Discrete Optimization Network (Contract No. 504438), EU-FP6-Marie Curie, Technical University of Wien, 2005, member of the research team.
12. Algorithmic Methods for optimizing Railways in Europe (contract No. HPRN-CT-1999-00104), Computer Technology Institute, University of Patras, Greece, 2003 - 2004, member of the research team.

## Scientific research activity

**Research fields:** combinatorial optimization, the theory of algorithms, artificial intelligence, mathematical modelling, the theory of graphs, the complexity of algorithms.

**Research activity:** participation in over 20 national and international research projects; coordinator, manager or scientific responsible of 6 research projects.

**Publications:** over 150 published papers indexed in international databases, 45 of them in ISI journals and 3 are monographs.

**Citations:** h – index 17 in ISI Web of Science and 977 citations, h – index 21 in Scopus and 1443 citations, h – index 27 in Google scholar and 2487 citations.

- Conferences Participation in over 60 international conferences, among which: Genetic and Evolutionary Computation Conference (GECCO), IEEE Congress on Evolutionary Computation (CEC), International Conference on Computational Intelligence in Security for Information Systems (CISIS), International Conference on Hybrid Artificial Intelligent Systems (HAIS), International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO), International Conference on Computers and Industrial Engineering (CIE), etc.  
Member of the Scientific Committee of over 65 international conferences.
- Organizing Conferences Director (or General director) of the organizing committee for the International Conference on Mathematical Applications, Funchal, Madeira, 9 – 12 July, 2018, <http://iknowd.org/icma/committees>  
Member of the organizing committee of the 20<sup>th</sup> Annual Conference of the Society of Mathematical Sciences from Romania, Baia Mare, 19-22 May 2016, <http://icam.ubm.ro/>
- Memberships in Professional Associations Member of the Romanian Mathematical Society (SSMR);  
Member of the American Mathematical Society (AMS);  
Member of the Dutch Operations Research Society, LNMB (1998 – 2002);  
Member of the Association Computability in Europe.
- Memberships in national organizations Expert for The Romanian Agency for Quality Assurance in Higher Education (ARACIS) since 2010;  
Evaluator for The National Council of Scientific Research (CNCS) since 2014.  
President of the Appeals Board in the field of Informatics, National Council for Attestation of University Titles, Diplomas and Certificates (CNATDCU), 2017 - 2020.  
Member of the National Council for Attestation of University Titles, Diplomas and Certificates (CNATDCU) in the field of Informatics, since 2020.
- Editorial activities Associate Editor of the Carpathian Journal of Mathematics, <https://www.carpathian.cunbm.utcluj.ro/editorial-board/>  
Associate Editor of the Creative Mathematics and Informatics, <https://www.creative-mathematics.cunbm.utcluj.ro/editorial-board/>  
Member of the Editorial Board of the International Journal of Soft Computing and Networking <http://www.inderscience.com/jhome.php?jcode=ijsn>
- Awards Award for outstanding results in research, Technical University of Cluj-Napoca, 2012.  
Bologna Professor 2018.  
Top World Ranking 2% in 2021 and 2022 (based on citations in 2020 and 2021).

Baia Mare, 07.03.2024

Professor Petrica Claudiu Pop Sitar, PhD