Name	Oksana S. Pichugina
Position, Department/Faculty	Full Professor in Applied Mathematics of the Mathematical Modeling and Artificial Intelligence Department, Faculty of Aircraft Control Systems
Academic Degree, Academic Title	Doctor of Sciences in Applied Mathematics, Full Professor
Email:	o.pichugina@khai.edu
Scopus Author ID:	57163964800
Web of Science ResearcherID:	AAC-7063-2019
ORCID iD:	0000-0002-7099-8967
Google Scholar:	https://scholar.google.com/citations?hl=en&user=fIZNYWYAAAAJ
ResearchGate:	https://www.researchgate.net/profile/Oksana_Pichugina

EDUCATION:

Basic education (university, major, year of graduation):

Master's in Industrial Mathematics
The Department of Mathematical Calculus of the Faculty of Mathematics and Mechanics at V. N. Karazin Kharkiv National University [09/1983 – 06/1988]

Master's in Enterprise Economics
Centre for Training of Experts in Financial and Bank Activities at Poltava National Technical University [09/1999 – 05/2002]

Master's in Mathematics
The Department of Mathematics and Statistics of the Faculty of Mathematics and Science at Brock University (Canada) [09/2013 – 08/2015]

Postgraduate/Doctoral studies:

Ph.D. student
The Department of Applied Mathematics of the Faculty of Applied Mathematics and Management at Kharkiv State Technical University of Radio Electronics [11/1992 – 11/1995]

Doctoral student
The Department of Applied Mathematics of the Faculty of Information and Analytical Technologies and Management at Kharkiv National Technical University of Radio Electronics [09/2013 – 10/2017]

PhD in Applied Mathematics
Higher Attestation Commission of Ukraine [11/1996]

Associate professor
Ministry of Education and Science of Ukraine [07/2001]

Doctor of Sciences in Applied Mathematics
Ministry of Education and Science of Ukraine [12/2019]

Full Professor
Ministry of Education and Science of Ukraine [12/2023]

Additional training, certification programs:
Convex Optimization (Verified certificate)
Stanford University Issued Apr 2014

R Programming (Verified certificate)
The Johns Hopkins University Issued Feb 2015

Statistical Learning (Verified certificate)
Stanford University Issued Apr 2016

6.00.1x - Introduction to Computer Science and Programming Using Python
Massachusetts Institute of Technology
Issued Mar 2017 Credential ID a5bab374a43142e8b35a3959844cd61f

6.431x: Probability - The Science of Uncertainty and Data
Massachusetts Institute of Technology
Issued Sep 2019 Credential ID 36750917fbbd4aa388abfa1d42c7c582

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

Full Professor of the Department of Mathematical Modeling and Artificial Intelligence
National Aerospace University – Kharkiv Aviation Institute [01/2021 – Current]

Visiting Full Professor of the Mathematical Modeling and Data Analysis Department
V. N. Karazin Kharkiv National University [09/2024 – 06/2025]

Postdoctoral Fellow at the Department of Mechanical & Industrial Engineering in the Toronto Intelligent Decision Engineering Laboratory (TIDEL)
University of Toronto (Canada) [05/2022 – 04/2023]

Leading Researcher of the Department of Higher Mathematics and Systems Analysis
National Aerospace University – Kharkiv Aviation Institute [01/2022 – 12/2023]

Visiting Associate Professor of the Department of Higher Mathematics and Economic and Mathematical Methods
Simon Kuznets Kharkiv National University of Economics [10/2021 – 06/2022]

Visiting Full Professor of the Department of Computer Science and Information Technology
O.M. Beketov National University of Urban Economy in Kharkiv [09/2020 – 06/2021]

Postdoctoral Fellow at the Institute of Statistics and Operations Research
University of Graz (Austria) [02/2020 – 07/2020]

Leading Researcher of the Department of Mathematical Modeling and Artificial Intelligence
National Aerospace University – Kharkiv Aviation Institute [01/2019 – 12/2021]

Accociate Professor of the Department of Mathematical Modeling and Artificial Intelligence
National Aerospace University – Kharkiv Aviation Institute [01/2018 – 12/2020]

Teaching Assistant of the Department of Mathematics and Statistics
Brock University (Canada) [09/2013 – 08/2015]

Visiting Accociate Professor of the Social Informatics Department
Poltava University of Economics and Trade [09/2008 – 06/2009]

Visiting Accociate Professor of the High Mathematics Department
Poltava Institute of Economics and Law [09/2002 – 06/2004]

Researcher of the Department of Applied Mathematics, Informatics and Mathematical Modeling
Poltava National Technical University [01/2002 – 12/2004]

Logistics Analyst of the Departments "Poltava-Consulting" and "Admin-Service"
Association "Poltava-Product" [07/2000 – 02/2003]

Accociate Professor of the Department of Applied Mathematics, Informatics and Mathematical Modeling
Poltava National Technical University [09/1998 – 08/2013]

Visiting Accociate Professor of the Higher Mathematics Department
Poltava Branch of Ukrainian-Finnish Institute of Management and Business
[09/1997 – 06/1998]

Senior Lecturer of the Department of Higher Mathematics
Poltava National Technical University [11/1995 – 08/1998]

Visiting Consultant
Grona LLC (Kharkiv-Kyiv-Skvira) [01/1992 – 12/1999]

Teaching Assistant and Researcher of the Department of Higher Mathematics
Poltava National Technical University [10/1990 – 10/1992]

Software Engineer
Ukraine Consumer's Cooperative Society Poltava Regional Department, Poltava Information-Computing Branch [09/1988 – 10/1990]

RESEARCH ACTIVITIES:

Main Research Areas:
Operations Research, Combinatorial Optimization, Global Optimization, Systems Analysis, Mathematical Modelling, Polyhedral Combinatorics, Algebraic Geometry, Numerical Methods, Graph Theory, Network Analysis, Probability and Statistics, Data Analysis, Machine Learning, Artificial Intelligence, Decision Theory, Logistics

Number of Publications (Scopus, WoS, others):
Author/Co-author of over 200 scientific publications, including articles, book chapters, conference papers indexed in Scopus and Web of Science, and numerous scientific patents.

Monographs, Textbooks:
Co-author of 18 monographs in the fields of Combinatorial Optimization, Global Optimization, Mathematical Modelling, Polyhedral Combinatorics, Graph Theory, Network Analysis, Logistics

Participation in Scientific Conferences:
Regular participant and speaker of numerous (over 50) international and Ukrainian scientific conferences and workshops in Operations Research, Optimization Theory, Combinatorial Optimization, Graph Theory, Network Analysis, Geometric Design, Decision Theory, Machine Learning, Artificial Intelligence, Data Science, Computer Science (Ukraine, Poland, Latvia, Spain, Belgium, Ireland, Great Britain, USA, Canada, India, Montenegro, Bulgaria)

TEACHING ACTIVITIES:

Courses Taught, Author Courses:
Decision Theory, Intelligent Decision-Making Support Systems, System Analysis, Optimization Methods and Operations Research, Data Analysis and Visualization, Methods of Social and Economic Systems Analysis, Algorithms and Data Structures, Discrete Mathematics, Research Project Management, Artificial Intelligence Methods and Systems, System Theory in Machine Learning, Information Systems and Technologies, Fundamentals of Informatics and Computer Technology

Methodological Materials, Textbooks:
Author/Co-author of textbooks and manuals in the field of mathematics, probability theory and mathematical statistics, data analysis, mathematical modeling, optimization methods, decision-making theory, programming
Developed electronic resources and video materials for hybrid and online teaching (Moodle)

GRANTS AND PROJECTS:

Participation in International and National Projects:

Complex routing and scheduling problems (University of Toronto, Toronto, Canada)
[05/2022 – 04/2023]

Optimal design of adhesive joints of composite structures of aerospace engineering (KHAI)
[01/2022 – 12/2023]

The analysis of spectroscopic data (reflectance spectra) and geometric properties of rock particles with respect to self-learning decision support systems (Graz University, Graz, Austria)
[02/2020 – 07/2020]

Physico-technical foundations of the formation of multi-component, nanostructured functional coatings (KHAI)
[01/2020 – 12/2020]

Combinatorial configurations mathematical modeling and optimization methods taking into account spatial and physical-metric parameters (KHAI)
[01/2019 – 12/2020]

Developing study methodology and mathematical models of sustainable socio-economic systems: development of mathematical models and methods for managing sustainable development of city housing and communal services (KNURE)
[01/2015 – 12/2017]

Graph Theory and Social Network Analysis with real-world applications (Brock University, SantCatharines, Canada)
[09/2013 – 08/2015]

Developing Euclidean Combinatorial Optimization: cutting-plane methods (PNTU)
[01/2002 – 12/2005]

Developing theory, models, methods, and algorithms of Euclidean Combinatorial Optimization (PNTU)
[11/1995 – 12/1997]

Development and implementation of new methods for the joint transformation of complex analytical and geometric information in mathematical and computer modeling: a study of the algebraic and topological properties of Euclidean sets after embedding into Euclidean space (IPMach)
[01/1992 – 12/1993]

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Distinctions, Awards, Prizes:
Awarded a diploma in the professional excellence competition *"Icarus of Wartime 2022"* for winning second place in the nomination *"Best Researcher."*
National Aerospace University "Kharkiv Aviation Institute"

International Teaching Assistant Award
Center for Pedagogical Innovation of Brock University (Canada) [2015]

Membership in Professional Associations:

CORS (Canadian Operational Research Society) [2025]

INFORMS (Institute for Operations Research and the Management Sciences) [2025]

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

Skob, Y., Yakovlev, S., Pichugina, O., Kartashov, O., Bychkov, I., Khalturin, V.: Computational Estimation of Protection Wall Height Impact on Hydrogen Explosion Consequences. Environmental and Climate Technologies. 29, 418–432 (2025). https://doi.org/10.2478/rtuect-2025-0028.

Pichugina, O., Yakovlev, S., Uzlov, D., Matsyi, O.: Drone Swarm Monitoring: Novel Modeling Approaches. In: 2024 14th International Conference on Dependable Systems, Services and Technologies (DESSERT). pp. 1–7 (2024). https://doi.org/10.1109/DESSERT65323.2024.11122153.

Pichugina, O., Tan, Y., Beck, C.: Deriving Compact QUBO Models via Multilevel Constraint Transformation, http://arxiv.org/abs/2404.03610, (2024). https://doi.org/10.48550/arXiv.2404.03610.

Skob, Y., Khimich, O., Pichugina, O., Hulianytskyi, A.: Mathematical Modeling of Pressure Effects from Hydrogen Explosion. In: Proceedings of the 4th International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2024) 2024. pp. 282–299. CEUR, Cambridge, MA, USA (2024).https://ceur-ws.org/Vol-3777/paper18.pdf

Pichugina, O., Kirichenko, L., Skob, Y.: Multicriteria Linear Assignment Problem in Healthcare Improvement. In: Proceedings of the 4th International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2024) 2024. pp. 175–184. CEUR, Cambridge, MA, USA (2024).https://ceur-ws.org/Vol-3777/paper11.pdf

Skob, Y., Yakovlev, S., Pichugina, O., Kalinichenko, M., Kartashov, O.: Numerical Evaluation of Harmful Consequences after Accidental Explosion at a Hydrogen Filling Station. Environmental and Climate Technologies. 28, 181–194 (2024). https://doi.org/10.2478/rtuect-2024-0015.

Kirichenko, L., Khatsko, D., Pichugina, O.: Trap Detection in Brownian Particle Trajectories Using Machine Learning Clustering Methods. In: 2023 IEEE 18th International Conference on Computer Science and Information Technologies (CSIT). pp. 1–4. IEEE, Lviv, Ukraine (2023). https://doi.org/10.1109/CSIT61576.2023.10324235.

Kirichenko, L., Pichugina, O., Sydorenko, B., Yakovlev, S.: Recognition of Shoplifting Activities in CCTV Footage Using the Combined CNN-RNN Model. In: Wojciechowski, A. and Lipiński, P. (eds.) Progress in Polish Artificial Intelligence Research 4. pp. 61–66. Wydawnictwo Politechniki Łódzkiej, Łódź (2023).http://repozytorium.p.lodz.pl/handle/11652/4783

Pichugina, O., Kirichenko, L., Skob, Y., Matsiy, O.: Constraint Community Detection: modelling approaches with applications. In: Proceedings of the 3rd International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2023). pp. 204–215. CEUR, Waterloo, Canada (2023).https://ceur-ws.org/Vol-3641/paper18.pdf

Skob, Y., Yakovlev, S., Pichugina, O., Kalinichenko, M., Korobchynskyi, K., Hulianytskyi, A.: Numerical Evaluation of Wind Speed Influence on Accident Toxic Spill Consequences Scales.

Environmental and Climate Technologies. 27, 450–463 (2023). https://doi.org/10.2478/rtuect-2023-0033.

Skob, Y., Yakovlev, S., Pichugina, O., Kalinichenko, M.: Mathematical Modelling of Gas Admixtures Release, Dispersion and Explosion in Open Atmosphere. In: Proceedings of the 3rd International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2023). pp. 168–181. CEUR, Waterloo, Canada (2023). https://ceur-ws.org/Vol-3641/paper15.pdf

Pichugina, O., Matsiy, O., Skob, Y.: Performance Comparison of Unbounded Knapsack Problem Formulations. In: Proceedings of the 7th International Conference on Computational Linguistics and Intelligent Systems. Volume III: Intelligent Systems Workshop. pp. 263–272. CEUR, Kharkiv, Ukraine (2023). https://ceur-ws.org/Vol-3403/paper21.pdf

Pichugina, O., Yakovlev, S.: Continuous extensions on Euclidean combinatorial configurations. Bul. Acad. Ştiinţe Repub. Mold. Mat. 3–21 (2022). https://doi.org/10.56415/basm.y2022.i1.p3.

Pichugina, O., Yakovlev, S.: New Classes of Unconstrained Permutation-Based Problems and Their Solutions. In: 2022 IEEE 3rd International Conference on System Analysis & Intelligent Computing (SAIC). pp. 1–5. IEEE, Kyiv (2022). https://doi.org/10.1109/SAIC57818.2022.9922919.

Koliechkina, L., Pichugina, O., Dvirna, O.: Horizontal Method Application to Multiobjective Combinatorial Optimization over Permutations. In: 2022 IEEE 3rd International Conference on System Analysis & Intelligent Computing (SAIC). pp. 1–5. IEEE, Kyiv (2022). https://doi.org/10.1109/SAIC57818.2022.9923018.

Kirichenko, L., Radivilova, T., Pichugina, O., Chala, L., Khandak, D.: Trend Detection in Short Time Series Using Discrete Wavelet Transform. In: Proceedings of IX International Scientific Conference "Information Technology and Implementation" (IT&I-2022). pp. 159–168. CEUR, Kyiv, Ukraine (2022).https://ceur-ws.org/Vol-3347/Paper_14.pdf

Kozin, I., Pichugina, O.: Evolutionary-Fragmentary Model of the One-Depot Vehicle Routing Problem. In: Proceedings of the 2nd International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2022). pp. 90–96. CEUR, Łódź, Poland (2022). https://ceur-ws.org/Vol-3348/short4.pdf

Pichugina, O., Kirichenko, L., Radivilova, T.: Binary classification: Ensemble Methods Utilizing Decision Theory Tools. In: Proceedings of the 2nd International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2022). pp. 19–33. CEUR, Łódź, Poland (2022). https://ceur-ws.org/Vol-3348/paper2.pdf

Pichugina, O.: Software Implementation of One VLSI Placement Optimization Problem. In: Proceedings of the 6th International Conference on Computational Linguistics and Intelligent Systems (COLINS 2022). Volume I: Main Conference. pp. 1719–1726, Gliwice, Poland (2022). https://ceur-ws.org/Vol-3171/paper122.pdf

Pichugina, O., Matsyi, O.: Routing Problems in VLSI Design: New Mathematical Models with Practical and Software Implementation. In: Proceedings of the 6th International Conference on Computational Linguistics and Intelligent Systems (COLINS 2022). Volume I: Main Conference. pp. 1727–1736. Gliwice, Poland (2022). https://ceur-ws.org/Vol-3171/paper123.pdf

Pichugina, O., Koliechkina, L., Chilikina, T.: Multicriteria Combinatorial Optimization Model of an Infocommunication System. In: 2021 IEEE 8th International Conference on Problems of Infocommunications, Science and Technology (PIC S&T). pp. 13–16 (2021). https://doi.org/10.1109/PICST54195.2021.9772124.

Pichugina, O.: Theoretic Background of Computer Solution of Combinatorial and Geometric

Configuration Problems. In: 2021 IEEE 8th International Conference on Problems of Infocommunications, Science and Technology (PIC S&T). pp. 62–66 (2021). https://doi.org/10.1109/PICST54195.2021.9772223.

Kirichenko, L., Pichugina, O., Zinchenko, H.: Clustering time series of complex dynamics by features. In: Selected Papers of the VIII International Scientific Conference "Information Technology and Implementation" (IT&I-2021). Conference Proceedings. pp. 83–93, Kyiv, Ukraine (2021). https://ceur-ws.org/Vol-3132/Paper_8.pdf

Matsyi, O., Pichugina, O.: Permutation-matrix approach to optimal linear assignment design. In: Proceedings of the II International Scientific Symposium "Intelligent Solutions" (IntSol-2021). pp. 141–149, Kyiv - Uzhhorod, Ukraine (2021). ceur-ws.org/Vol-3018/Paper_13.pdf

Pichugina, O.: Attributed Networks Formation Models with Application in Social Network Analysis. In: Proceedings of the 5th International Conference on Computational Linguistics and Intelligent Systems (COLINS 2021). Volume I: Main Conference. pp. 1262–1273 , Lviv, Ukraine (2021). https://ceur-ws.org/Vol-2870/paper93.pdf

Pichugina, O., Matsiy, O.: Hybrid approaches to solving classification problems with constraints. In: Proceedings of the International Workshop of IT-professionals on Artificial Intelligence (ProfIT AI 2021) 2021. pp. 22–32 , Kharkiv, Ukraine (2021). https://ceur-ws.org/Vol-3003/paper3.pdf

Pichugina, O.: Mathematical Modeling Of Transport Logistics Problems. In: 2020 IEEE 2nd International Conference on System Analysis Intelligent Computing (SAIC). pp. 110–114 (2020). https://doi.org/10.1109/SAIC51296.2020.9239155.

Pichugina, O.: On Modelling of Computer Cluster Optimization Problem With Applications. In: 2020 IEEE KhPI Week on Advanced Technology (KhPIWeek). pp. 429–436 (2020). https://doi.org/10.1109/KhPIWeek51551.2020.9250145.

Pichugina, O.: New Bounds in Linear Combinatorial Optimization. In: Proceedings of the 9th International Conference "Information Control Systems & Technologies." pp. 137–149. CEUR Vol-2711 urn:nbn:de:0074-2711-3, Odessa, Ukraine (2020).

Pichugina, O.: Decision Making Tools For Choice Software Development Environment. In: 2020 IEEE KhPI Week on Advanced Technology (KhPIWeek). pp. 450–454 (2020). https://doi.org/10.1109/KhPIWeek51551.2020.9250109.

Pichugina, O.: Diet-Menu Problem Modelling And Applications. In: 2020 IEEE 2nd International Conference on System Analysis Intelligent Computing (SAIC). pp. 1–5 (2020). https://doi.org/10.1109/SAIC51296.2020.9239149.

Pichugina, O., Matsyi, O.: Boolean Satisfiability Problem: Discrete and Continuous Reformulations with Applications. In: 2020 IEEE 15th International Conference on Advanced Trends in Radioelectronics, Telecommunications and Computer Engineering (TCSET). pp. 623–627 (2020). https://doi.org/10.1109/TCSET49122.2020.235507.

Pichugina, O., Muravyova, N.: The Polyhedral-Surface Cutting-Plane Method for Linear Combinatorial Optimization. In: Proceedings of the 9th International Conference "Information Control Systems & Technologies." pp. 455–467. CEUR Vol-2711 urn:nbn:de:0074-2711-3, Odessa, Ukraine (2020).

Pichugina, O., Muravyova, N.: Data Batch Processing: Modelling and Applications. In: 2020 IEEE International Conference on Problems of Infocommunications. Science and Technology (PIC S T). pp. 765–770 (2020). https://doi.org/10.1109/PICST51311.2020.9467928.

Pichugina, O.: New Approaches to Modelling Covering Problems in Monitoring Optimization. In: 2019 IEEE International Scientific-Practical Conference Problems of Infocommunications, Science and Technology (PIC S T). pp. 300–304 (2019). https://doi.org/10.1109/PICST47496.2019.9061386.

Pichugina, O., Muravyova, N.: A Spherical Cutting-plane Method With Applications In Multimedia Flow Management. In: Proceedings of the 1st International Workshop on Digital Content & Smart Multimedia (DCSMart 2019). pp. 82–93. CEUR Vol-2533, Lviv, Ukraine (2019). http://ceur-ws.org/Vol-2533/paper8.pdf

Pichugina, O., Yakovlev, S.: Euclidean Combinatorial Configurations: Typology and Applications. In: 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON). pp. 1065–1070 (2019). https://doi.org/10.1109/UKRCON.2019.8879912.

Yakovlev, S., Kartashov, O., Pichugina, O., Korobchynskyi, K.: Genetic Algorithms for Solving Combinatorial Mass Balancing Problem. In: 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON). pp. 1061–1064 (2019). https://doi.org/10.1109/UKRCON.2019.8879938.

Yakovlev, S., Kartashov, O., Pichugina, O., Yakovleva, I.: Geometric Information and Its Mapping in Monitoring and Control Systems. In: 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON). pp. 1003–1006 (2019). https://doi.org/10.1109/UKRCON.2019.8879998.

Pichugina, O., Kartashov, O.: Signed Permutation Polytope Packing in VLSI Design. In: 2019 IEEE 15th International Conference on the Experience of Designing and Application of CAD Systems (CADSM) Conference Proceedings. 4/50-4/55, Lviv (2019). https://doi.org/10.1109/CADSM.2019.8779353.

Yakovlev, S., Pichugina, O., Yarovaya, O.: Polyhedral-spherical configurations in discrete optimization problems. Journal of Automation and Information Sciences. 51, 26–40 (2019). https://doi.org/DOI: 10.1615/JAutomatInfScien.v51.i1.30.

Yakovlev, S., Pichugina, O.: On Constrained Optimization of Polynomials on Permutation Set. In: Proceedings of the Second International Workshop on Computer Modeling and Intelligent Systems (CMIS-2019). pp. 570–580. CEUR Vol-2353 urn:nbn:de:0074-2353-0, Zaporizhzhia, Ukraine (2019). http://ceur-ws.org/Vol-2353/paper45.pdf

Yakovlev, S., Kartashov, O., Pichugina, O.: Optimization on Combinatorial Configurations Using Genetic Algorithms. In: Proceedings of the Second International Workshop on Computer Modeling and Intelligent Systems (CMIS-2019). pp. 28–40. CEUR Vol-2353 urn:nbn:de:0074-2353-0, Zaporizhzhia, Ukraine (2019). http://ceur-ws.org/Vol-2353/paper3.pdf

Yakovlev, S.V., Pichugina, O.S.: Properties of Combinatorial Optimization Problems Over Polyhedral-Spherical Sets. Cybern. Syst. Anal. 54, 99–109 (2018). https://doi.org/10.1007/s10559-018-0011-6

Yakovlev, S., Pichugina, O., Yarovaya, O.: On Optimization Problems on the Polyhedral-Spherical Configurations with their Properties. In: 2018 IEEE First International Conference on System Analysis Intelligent Computing (SAIC). pp. 94–100 (2018). https://doi.org/10.1109/SAIC.2018.8516801

Farzad, B., Pichugina, O., Koliechkina, L.: Multi-Layer Community Detection. In: 2018 International Conference on Control, Artificial Intelligence, Robotics Optimization (ICCAIRO). pp. 133–140 (2018). https://doi.org/10.1109/ICCAIRO.2018.00030

Pichugina, O., Yakovlev, S.: Optimization on polyhedral-spherical sets: Theory and applications. In: 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON). pp. 1167–

1174. IEEE, Kiev (2017). https://doi.org/10.1109/UKRCON.2017.8100436.

Pichugina, O.: Placement problems in chip design: Modeling and optimization. In: 2017 4th International Scientific-Practical Conference Problems of Infocommunications. Science and Technology (PIC S&T). pp. 465–473. IEEE, Kharkov, Ukraine (2017). https://doi.org/10.1109/INFOCOMMST.2017.8246440.

Pichugina, O., Farzad, B.: A Human Communication Network Model. In: Proceedings of the 12th International Conference on ICT in Education, Research and Industrial Applications. Integration, Harmonization and Knowledge Transfer. pp. 33–40. CEUR, Kyiv, Ukraine (2016). https://ceur-ws.org/Vol-1614/paper_74.pdf

Pichugina, O.S., Yakovlev, S.V.: Continuous Representations and Functional Extensions in Combinatorial Optimization. Cybern Syst Anal. 52, 921–930 (2016). https://doi.org/10.1007/s10559-016-9894-2.

Oksana, P., Yakovlev, S.: Convex extensions and continuous functional representations in optimization, with their applications. j coupled syst multiscale dyn. 4, 129–152 (2016). https://doi.org/10.1166/jcsmd.2016.1103.

Pichugina, O.S., Yakovlev, S.V.: Functional and analytic representations of the general permutations. EEJET. 1, 27 (2016). https://doi.org/10.15587/1729-4061.2016.58550.

Books, Chapters in Collective Monographs:

Pichugina, O., Brus, A.: Komp'yuternoe issledovanie kombinatornykh mnozhestv i mnogogrannikov:: Klassifikatsiya. Primenenie v optimizatsii i teorii geometricheskikh grafov. Monografiya. LAP LAMBERT Academic Publishing (2014). https://www.amazon.com/s?k=Komp%E2%80%99yuternoe+issledovanie+kombinatornykh+mnozhestv+i+mnogogrannikov&ref=nb_sb_noss

Pichugina, O.S., Yakovlev, S.V.: Continuous functional representations in discrete optimization: monograph. Gold Mile, Kharkiv (2018). https://scholar.google.com.ua/scholar?hl=uk&as_sdt=0,5&cluster=9156620117625354784

Stoyan, Y.G., Yakovlev, S.V., Pichugina, O.S.: The Euclidean combinatorial configurations: a monograph. Constanta, Kharkiv (2017). http://www.nas.gov.ua/publications/books/SiteBook/Pages/default.aspx?ffn1=ISBN&fft1=Eq&ffv1=978-966-342-391-3

Yakovlev, S., Pichugina, O., Koliechkina, L.: Combinatorial point configurations and polytopes. Wydawnictwo Uniwersytetu Łódzkiego, Łódz (2023). https://doi.org/10.18778/8331-391-7.

Kirichenko, L., Pichugina, O., Chala, L., Radivilova, T.: Exploring Stochastic Time Series Structure Through Wavelet Entropy. In: Babichev, S. and Lytvynenko, V. (eds.) Lecture Notes in Data Engineering, Computational Intelligence, and Decision-Making, Volume 1. pp. 269–283. Springer Nature Switzerland, Cham (2024). https://doi.org/10.1007/978-3-031-70959-3_14.

Yakovlev, S., Pichugina, O.: Continuous and Convex Extensions Approaches in Combinatorial Optimization. In: Zgurovsky, M. and Pankratova, N. (eds.) System Analysis and Artificial Intelligence. pp. 257–270. Springer Nature Switzerland, Cham (2023). https://doi.org/10.1007/978-3-031-37450-0_15.

Pichugina, O.S., Solomon, D.I., Stetsyuk, P.I.: The Independence Number of the Generalized

Wheel Graphs W_{2k+1}^{p}. In: Gaivoronski, A.A., Knopov, P.S., and Zaslavskyi, V.A. (eds.) Modern Optimization Methods for Decision Making Under Risk and Uncertainty. pp. 102–131. CRC Press, Boca Raton (2023). https://www.taylorfrancis.com/books/edit/10.1201/9781003260196/modern-optimization-methods-decision-making-risk-uncertainty-pavlo-knopov-volodymyr-zaslavskyi-alexei-gaivoronski?refId=e7f4af52-515f-4208-bd15-c8e7c0792df3&context=ubx

Kirichenko, L., Pichugina, O., Radivilova, T., Pavlenko, K.: Application of Wavelet Transform for Machine Learning Classification of Time Series. In: Babichev, S. and Lytvynenko, V. (eds.) Lecture Notes in Data Engineering, Computational Intelligence, and Decision Making. pp. 547–563. Springer International Publishing, Cham (2023). https://doi.org/10.1007/978-3-031-16203-9_31.

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ADDITIONAL INFORMATION:

Language Proficiency:
Ukrainian, English

IT Skills:
Microsoft Office / Google Workspace / Microsoft Teams / Zoom / Zotero / Latex / Google Colab / Anaconda / Overleaf / Zotero / R / Python / Maple / Matlab / GNU Octave / Mathcad / Mathematica / Statistica / VBA / Delphi.

Social and Community Activities:
Charity and volunteering during the full-scale invasion of Russia.