APRIL 2024

CURRICULUM VITAE

Serhii Lupenko
Full Professor, Doctor of Technical Sciences
Mathematical Modeling, Signal Processing,
Data Science, Artificial Intelligence
Poland

1. Personal data

1. **Date and place of birth:**
1975-03-01, Leninske village (now Spaske village), Krolevets district, Sumy region, Ukraine
2. **Citizenship:** Ukrainian
3. **Marital status**: married, 3 children
4. **Telefon**: +48733132520
5. **E-mail**: lupenko.san@gmail.com

2. Education, academic degrees and titles obtained

1. ***Master's degree*** in Ternopil Ivan Puluj State Technical University at the Faculty of Instrumentation, specializing in "Biotechnical and medical devices and systems" 1992-1998

2. ***Ph.D***. in Ternopil Ivan Puluj State Technical University. Dissertation topic "Modelling and Methods of Processing Heart Cyclic Signals Based on Linear Random Functions" 2002
3. ***Doctor of Technical Sciences*** in Lviv Polytechnic National University. Dissertation topic "Development of the theory of modeling and processing of cyclical signals in information systems". 2010
4. ***Full Professor*** in the field of "Computer Systems and Networks" was awarded by the Ministry of Education and Science of Ukraine in Kiev 2011
5. Honorary Title of ***Academician*** of the Academy of Sciences of the Higher School of Ukraine, field "Computer Science and System Analysis" 2021

3. Professional Experience

Long term appointments

1. Programmer in the company "Mandrivec". Ternopil, Ukraine (1998).
2. Assistant at the Department of Computer Sciences of Ternopil Ivan Puluj National Technical University. Ukraine (2001-2003).
3. Associate Professor at the Department of Computer Sciences of Ternopil Ivan Puluj National Technical University. Ukraine (2003-2004).
4. Head of the Department of Radio-Computer Systems of Ternopil Ivan Puluj National Technical University. Ukraine (2004-2008).
5. Head of the Department of Computer Engineering of Ternopil Ivan Puluj National Technical University. Ukraine (2008-2010).
6. Head of the Department of Computer Systems and Networks of Ternopil Ivan Puluj National Technical University. Ukraine (2010-2015).
7. Associate Professor at the Department of Computer Sciences of University of Bielsko-Biała. Poland (2012 - 2014).
8. Director of the company „Sustainable Development”. Ljubljana, Slovenia (2015).
9. Research Laboratory Supervisor “Modeling, mathematical and software information systems and networks” (2009 - present).
10. Professor of the Department of Computer Systems and Networks of Ternopil Ivan Puluj National Technical University. Ukraine (2015-2022).
11. Professor of the Department of Informatics of the Opole University of Technology. Poland (2021 - present).

Visiting appointments

1. Malopolska Regional Development Agency. Krakow, Poland (2011).

2. Beijing Medical Research Institute Kundawell. Beijing, China (2013-2014).
3. Tallinn University (TLU). Tallinn, Estonia (2014).
4. KTH Royal Institute of Technology. Stockholm, Sweden (2014).
5. Lead Researcher in Institute of Telecommunications and Global Information Space of the National Academy of Sciences of Ukraine. Kyiv (2021 - present).
6. Visiting Professor of American University Kyiv, Ukraine, (2023 – present).

4. Language skills

Ukrainian, Russian, Polish - Fluent, English (Intermediate), Slovenian (Limited working proficiency)

5. Funded research projects

1. *Principal Investigator* of the comprehensive inter-university research project "Development, research and implementation of methods and tools for quality control and management of software products". Funded by Ministry of Education and Science of Ukraine (state registration number 0113U000258).

2. *Principal Investigator* of the research project "Creation of grid-oriented software for cryptanalysis" which is part of the project "Development of grid-oriented mathematical tools and software for modeling and applied research in mechanics, identification of nanoporous materials, biometrics and cryptanalysis" by the Institute of Cybernetics named after VM Glushkov NAS Ukraine. Funded by NAS Ukraine (state registration number 0111U008183).

3. *Principal Investigator* of the research project "Development of mathematical and software IT systems for diagnostics and authentication of persons on cyclical biometric signals". Funded by Ministry of Education and Science of Ukraine (state registration number 0112U002203).

4. *Principal Investigator* of the research project „International Research Program of Chinese Image Medicine” (2017-2023). Funded by Beijing Medical Research Institute Kundawell (Beijing, China).

5. *The executor* of the research project “System of ecological and medical monitoring of environment” (state registration number 0197U004549).

6. *The executor* of the research project “Mathematical model of stochastically periodic loadings of energy systems and development methods of a statistical analysis of graphs of loadings based on it”. Funded by Ministry of Education and Science of Ukraine (state registration number 0100U000784).

7. *The executor* of the research project “Information technologies of statistical analysis and forecast of rhythmic signals and its use for power loading control optimization”. Funded by Ministry of Education and Science of Ukraine (state registration number 0102U002297).

6. Funded educational projects

1. Co-coordinator of advanced training courses in the field "Methods and means of digital data processing in telecommunications systems and networks" for officers of the Border Guard Service of Ukraine, as well as for officers from the Socialist Republic of Vietnam. Funded by Border Guard Service of Ukraine and by Hitako (Vietnam) (2008).

2. Head of the working group at the Ternopil Ivan Puluj National Technical University for the implementation of the international project 543968-TEMPUS-1-2013-1-EE-TEMPUS-JPCR Modernization of Postgraduate Studies in Safety and Resilience for People and Industry (SEREIN), which received funding under the International Educational Program "Tempus" (2013-2014).

3. Head of the educational project «A comprehensive set of teaching materials for the subject "Logic and Set Theory" on the Moodle platform». The project is financed by the Opole University of Technology within the framework of the Program "EDUCATUS" (2022-2023).

7. Teaching Experience

undergraduate classes:

taught in English:

Logic and Set Theory (taught at Opole University of Technology, Poland)

Calculus for Engineers (taught at American University Kyiv, Ukraine)

Artificial Intelligence (Methods and Systems) (taught at Ternopil Ivan Puluj National Technical University, Ukraine).

taught in Russian:

Data coding methods in telecommunication systems (taught at Ternopil Ivan Puluj National Technical University, Ukraine).

taught in Polish:

Logic and Set Theory (taught at Opole University of Technology, Poland)

Fundamentals of Software Engineering, IT Project Management (taught at University of Bielsko-Biała, Poland)

taught in Ukrainian:

Modeling of Computer Systems, Optimization Methods, Digital Signal Processing, Methods and Means of Artificial Intelligence Systems, Theory of Information and Coding (taught at Ternopil Ivan Puluj National Technical University, Ukraine).

graduate classes:

taught in English:

Design of Experiments (taught at American University Kyiv, Ukraine)

Mathematical Software for Computer Systems and Networks (taught at Ternopil Ivan Puluj National Technical University, Ukraine).

taught in Polish:

Diploma seminar (taught at Opole University of Technology, Poland)

taught in Ukrainian:

Mathematical support of computer systems and networks, Biometric Technologies in Computer Systems (taught at Ternopil Ivan Puluj National Technical University, Ukraine).

8. Master, PhD and Doctor of Technical Sciences level research supervision

Supervisor of 34 MSc level theses.

Supervisor of 8 PhD level theses:

1) Defended in 2010: Andriy Sverstiuk, *'Mathematical modeling and methods of processing synchronously registered heart signals using cyclic rhythmically connected random processes* (in Ukraine);
2) Defended in 2012: Andriy Gorkunenko, *'Modeling and methods of analysis and forecasting of cyclical economic processes in decision support information systems* (in Ukraine);
3) Defended in 2016: Nadia Lutsyk, *'Modelling and methods of biomechanical heart signals processing using the conditional cyclic random process* (in English);
4) Defended in 2020: Alexandra Orobchuk, *'Ontooriented information systems of the subject area «Chinese Image Medicine»* (in Ukraine);
5) Defended in 2020: Andriy Zozulia, *'Modeling and methods of statistical processing rhythmic cardio signals with increased resolution* (in Ukraine);
6) Defended in 2021: Natalia Stadnyk, *'Modeling and effective methods of cyclic signal processing based on isomorphic cyclic random processes* (in Ukraine);
7) Defended in 2021: Nnamene Christopher Chizoba, *'Computer ontology of the subject area "Modeling and processing of cyclic signals* (in Ukraine).
8) Defended in 2024: Butsiy R. A. *'Modeling and Methods for Effective Processing of Cyclic Signals in Neurointerface and Cardio-diagnostic Systems* (in Ukraine).

Supervisor of 1 Doctor of Technical Sciences level theses:

Defended in 2019: Yaroslav Lytvynenko, *'Methods of identification of segment and rhythmic structures of cyclic signals in systems of digital data processing* (in Ukraine).

9. Memberships

1. Academician of the Academy of Sciences of the Higher School of

Ukraine.

2. A member of the subcommittee on computer engineering of the Scientific-Methodological Commission for Information Technologies, Automation and Telecommunications of the Higher Education Sector of the Scientific-Methodological Council of the Ministry of Education and Science of Ukraine.
3. Head of the Scientific School "Modelling and mathematical support of intellectualized information systems in medicine, technology and economy" in Ternopil Ivan Puluj National Technical University.
4. Deputy Chairman of the Scientific-Technical Council of Ternopil Ivan Puluj National Technical University.
5. Chairman of Specialized Academic Board “Mathematical modeling and computational methods (technical science)” in Ternopil Ivan Puluj National Technical University.
6. Chairman of four one-time Specialist Scientific Councils for the Defense of Dissertations of Doctors of Philosophy in Ternopil Ivan Puluj National Technical University (2021).
7. Member of Specialized Academic Board “Mathematical modeling and computational methods (technical science)” of Lviv Polytechnic National University (2012-2021).
8. Member of the Scientific Council for the discipline "Technical Informatics and Telecommunications" of Opole University of Technology (Poland).
9. Member of the Board of Reviewers of the International Scientific Journal "Fractal and Fractional" (Impact Factor 5.4, Q1).
10. Member of Editorial Board of Scientific Journal of the Ternopil Ivan Puluj National Technical University.
11. Member of Editorial Board of Scientific Journal "Computer systems and networks" of Lviv Polytechnic National University.
12. Member of Editorial Board of Scientific Journal of the "Computer Systems and Information Technologies" of Khmelnytsky National University.
13. Chairman of the program committee of the scientific-technical conference "Information Models, Systems and Technologies".
14. Co-chair of the International Workshop “Information Technologies: Theoretical and Applied Problems".
15. Member of the program committee of the international scientific conference "Advanced Computer Information Technologies".
16. Member of the program committee of the International Workshop “Computer Information Technologies in Industry 4.0".
17. Head of Ternopil regional branch of all-Ukrainian NGO “Council on Competitiveness of industry of ICT of Ukraine”.

10. Editor services

1. ***Guest Editor*** of Special Issue "Advanced Modeling and Methods of Statistical Processing of Stochastic Signals in Fractional Dynamic Systems" of Fractal and Fractional (ISSN 2504-3110), 2023-2024.

(JCR – **Q1**, CiteScore - **Q1**, SJR – **Q2**, Impact Factor **5.4**) https://www.mdpi.com/journal/fractalfract/special_issues/8Y640D0029

2. ***Editor*** of Proceedings of the 1st International Workshop on Information Technologies: Theoretical and Applied Problems 2021, Ternopil, Ukraine, November 16-18, 2021. CEUR Workshop Proceedings 3039, CEUR-WS.org 2021. https://ceur-ws.org/Vol-3039/ (Indexed in Scopus and DBLP databases).

3. ***Editor*** of Proceedings of the 2nd International Workshop on Information Technologies: Theoretical and Applied Problems (ITTAP 2022), Ternopil, Ukraine, November 22-24, 2022. CEUR Workshop Proceedings 3309, CEUR-WS.org 2022. https://ceur-ws.org/Vol-3309/ (Indexed in Scopus and DBLP databases).

4. ***Editor*** of Proceedings of the 3nd International Workshop on Information Technologies: Theoretical and Applied Problems (ITTAP 2023), Ternopil, Ukraine, Opole, Poland, November 22-24, 2023. CEUR Workshop Proceedings 3628, CEUR-WS.org 2023. https://ceur-ws.org/Vol-3628/ (Indexed in Scopus and DBLP databases).

11. Refereeing services

Fractal Fract (ISSN 2504-3110)
Mathematics (ISSN 2227-7390)
Electronics (ISSN 2079-9292)
Sensors (ISSN 1424-8220)
Applied Sciences (ISSN 2076-3417)
Symmetry (ISSN 2073-8994)
Healthcare (ISSN 2227-9032)
Pharmaceuticals (ISSN 1424-8247)
Behavioral Sciences (ISSN 2076-328X)

12.Other achievements

1. Chairman of the Expert Committees of the Ministry of Education and Science of Ukraine for conducting accreditation and licensing examinations at Ukrainian universities (2010-2015).
2. Co-author of the Higher Education Standard of Ukraine of the 3rd degree (educational and scientific) "Doctor of Philosophy" in the field of knowledge "Computer Science" specialty "Computer Engineering" (2022).

3. Organizer and Head of the International Interdisciplinary Round Table "Relevance, problems and prospects of scientific research of ancient psychophysical health and medical practices on the example of Chinese Image Medicine and Zhong Yuan Qigong" in Kyiv (2019).
4. Guarantor of educational programs in the specialty of "Computer Engineering" degrees "Bakalawr", "Master", "Doctor of Philosophy" in Ternopil Ivan Puluj National Technical University.

13. State and regional awards

1. Diploma of the Ternopil Regional State Administration for a significant contribution to the development of an educational institution (2005).
2. Diploma of the Ternopil Regional Council for many years of hard work, significant scientific achievements and on the occasion of the Science Day (2010).
3. Diploma of the Ternopil Regional State Administration and the Ternopil Regional Council for diligent creative work, high professionalism, significant personal contribution to the education and training of highly qualified staff and on the occasion of the Science Day (2017)
4. Diploma of the Prime Minister of Ukraine for significant personal contribution to the development of education and science, many years of hard work and high professionalism (2020).

14. Papers published

Total number of publications					
389					
Scientific monographs	**Articles**	**Conference papers**	**Certificates of registration of copyright**	**Books**	**Methodical instructions and Lecture summaries**
10	122	202	12	9	34

https://orcid.org/0000-0002-6559-0721

https://sciprofiles.com/profile/2233851

https://www.scopus.com/authid/detail.uri?authorId=36069365600

https://www.webofscience.com/wos/op/login-redirect/wos-op/researcher/CAJ-1673-2022

https://scholar.google.com.ua/citations?user=wLahCPEAAAAJ&hl=en

A list of some publications

Scientific monographs

1. Lupenko S.A. Theoretical bases of modeling and processing of cyclic signals in information systems. / S.A. Lupenko. - Lviv: "Magnolia 2006" Publishing House, 2016. - 344 p. (Scientific monograph in Ukrainian).
2. Lupenko S.A. Theoretical bases of modeling and processing of cyclic signals in information systems. Second edition. Stereotyped. Lviv: "Magnolia 2006" Publishing House, 2020. –p.340. ISBN 978-617-574-108-5. (Scientific monograph in Ukrainian).
3. Lupenko S.A. Mathematical modeling, methods of processing and computer simulation of cyclic heart signals based on linear random functions. Lviv: "Magnolia 2006" Publishing House - 2006, 2020. –194 p. ISBN 978-617-574-183-2. (Scientific monograph). *(*in Ukrainian*).*
4. Lupenko S.A. Mathematical modeling, methods of analysis and computer simulation of heart rate during physical activity of the patient / S.A. Lupenko, E.V. Tysh // Lviv: "Magnolia 2006" Publishing House - 2006, 2020. –150 p. ISBN 978-617-574-185-6. (Scientific monograph in Ukrainian).
5. Lupenko S.A. Mathematical modeling and methods of processing synchronously registered heart signals using cyclic rhythmically related random processes / S.A. Lupenko, A.S. Sverstyuk // Lviv: "Magnolia 2006" Publishing House - 2006, 2020. –148 p. ISBN 978-617-574-184-9. (Scientific monograph in Ukrainian).
6. Lupenko S.A. Modeling and processing of electrocardiographic signals in computer systems for diagnosing the functional state of the heart based on a stochastic approach / S.A. Lupenko, I.V. Lytvynenko // Lviv: "Magnolia 2006" Publishing House - 2006, 2020. –160 p. ISBN 978-617-574-190-0. (Scientific monograph in Ukrainian).
7. Lupenko S.A. Modeling and methods of analysis and forecasting of cyclical economic processes in information systems to support decision making / S.A. Lupenko, А.Б. Horkunenko // Lviv: "Magnolia 2006" Publishing House - 2006, 2020. –140 p. ISBN 978-617-574-184-9. (Scientific monograph in Ukrainian).
8. Lupenko S.A. Mathematical modeling and effective methods of processing cyclic signals based on isomorphic cyclic random processes / S.A. Lupenko, N.B. Stadnyk, I.V. Lytvynenko// Lviv: "Magnolia 2006" Publishing House - 2006, 2021. - 197 p. ISBN 978-617-574-000-0. (Scientific monograph in Ukrainian).
9. Lupenko S.A. Mathematical modeling and methods of processing rhythmic cardio signals with high resolution / Zozulia A.M., S.A. Lupenko, I.V. Lytvynenko, V.M. Trisnyuk. // Lviv: "Magnolia 2006" Publishing House - 2006, 2021. - 143 p. ISBN 978-617-574-000-0. (Scientific monograph in Ukrainian).

Peer-reviewed articles in scientific journals (selected)

1. Lupenko, S. Rhythm-adaptive statistical estimation methods of probabilistic characteristics of cyclic random processes. Digital Signal Processing, Volume 151, 2024, 104563, ISSN 1051-2004, https://doi.org/10.1016/j.dsp.2024.104563 [***Article, Scopus, Web of Science, JCR - Q2, SJR – Q2, Impact Factor 2.92***].

2. Lupenko, S. Abstract Cyclic Functional Relation and Taxonomies of Cyclic Signals Mathematical Models: Construction, Definitions and Properties. Mathematics 2024, 12, 3084. https://doi.org/10.3390/math12193084 [***Article, Scopus, Web of Science, JCR - Q1, CiteScore - Q1, SJR – Q2, Impact Factor 2.3***].

3. Lupenko, S. The rhythm-adaptive Fourier series decompositions of cyclic numerical functions and one-dimensional probabilistic characteristics of cyclic random processes. Digital Signal Processing, 2023, 104104, ISSN 1051-2004, https://doi.org/10.1016/j.dsp.2023.104104 [***Article***, ***Scopus, Web of Science, JCR - Q2, SJR – Q2, Impact Factor 2.92***].

4. Shakhovska, N.; Zherebetskyi, O.; Lupenko, S. Model for Determining the Psycho-Emotional State of a Person Based on Multimodal Data Analysis. Appl. Sci. 2024, 14, 1920. https://doi.org/10.3390/app14051920 [***Article***, ***Scopus, Web of Science, JCR - Q2, CiteScore - Q1, SJR – Q2, Impact Factor 2.7***].

5. Lupenko, S.; Butsiy, R. Isomorphic Multidimensional Structures of the Cyclic Random Process in Problems of Modeling Cyclic Signals with Regular and Irregular Rhythms. Fractal Fract. 2024, 8, 203. https://doi.org/10.3390/fractalfract8040203 [***Article***, ***Scopus, Web of Science, JCR – Q1, CiteScore - Q1, SJR – Q2, Impact Factor 5.4***].

6. Lupenko, S.; Butsiy, R.; Shakhovska, N. Advanced Modeling and Signal Processing Methods in Brain–Computer Interfaces Based on a Vector of Cyclic Rhythmically Connected Random Processes. Sensors 2023, 23, 760. https://doi.org/10.3390/s23020760 [***Article***, ***Scopus, Web of Science, JCR - Q2, CiteScore - Q1, SJR – Q2, Impact Factor 3.9***].

7. Vakulenko, D., Vakulenko, L., Zaspa, H., Lupenko, S., Stetsyuk, P., Stovba, V. Components of Oranta-AO software expert system for innovative application of blood pressure monitors. Journal of Reliable Intelligent Environments, 2022. https://doi.org/10.1007/s40860-022-00191-4 [***Article***, ***Scopus, Web of Science, JCR - Q1, SJR – Q1***].

8. Lupenko, S. The Mathematical Model of Cyclic Signals in Dynamic Systems as a Cyclically Correlated Random Process. Mathematics 2022, 10, 3406. https://doi.org/10.3390/math10183406 [***Article***, ***Scopus, Web of Science, JCR - Q1, CiteScore - Q1, SJR – Q2, Impact Factor 2.4***].

9. *Shabliy N.* Keystroke Dynamics Analysis Using Machine Learning Methods / Shabliy, N., Lupenko, S., Lutsyk, N., Yasniy, O., Malyshevska, O. // Applied Computer Science, 2021, 17(4), pp. 75–83. [***Article***, ***Scopus (Q3-Q4)***].

10. *Lytvynenko I.* Modeling and Methods of Statistical Processing of a Vector Rhytmocardiosignal / Lytvynenko, I., Lupenko, S., Onyskiv, P., Zozulia, A.// Open Bioinformatics Journal, 2021, 14(1), pp. 73–86. [***Article***, ***Scopus (Q4***].

11. *Lupenko S.* Axiomatic-deductive strategy for IT discipline content formation / Lupenko Serhii A., Pasichnyk Volodymyr V., Kunanets Nataliia E. // Information Technologies and Learning Tools, Published 2019. Vol. 73, Issue 5, pp. 149-160 [***Web of Science***].

12. *Lupenko S.* Statistical analysis of human heart rhythm with increased informativeness / Lupenko S., Lutsyk N., Yasniy O., Sobaszek L. // Acta Mechanica et Automatica. Vol. 12: Issue 4 (2018), pp. 311-315. [***Scopus, Web of Science***].

13. *Lytvynenko I.* Modeling of the Ordered Surface Topography of Statically Deformed Aluminum Alloy / Lytvynenko, I.V., Maruschak, P.O., Lupenko, S.A., Popovych,

P.V. // Materials Science, vol.52, no.1. July 2016. – Springer US, 2016. –pp.113-122. [***Scopus, Web of Science***].

14. *Lupenko S.* Cyclic linear random process as a mathematical model of cyclic signals / Lupenko S., Lutsyk N., Lapusta Y. // Acta mechanica et automatica, vol. 9 no.4, 2015. 01.12.2015. – De Gruyter Open, France 2015. –pp. 219-224. [***Scopus, Web of Science***].

15. *Lytvynenko I.* Processing and modeling of ordered relief at the surface of heat-resistant steels after laser irradiation as a cyclic random process / Lytvynenko I.V., Maruschak P.O., Lupenko S.A. // Automatic Control and Computer Sciences, 48 (1), 2014. -pp. 1-9. [***Scopus, Web of Science***].

16. *Lytvynenko I.* Analysis of multiple cracking of nanocoating as a cyclic random process / Lytvynenko I.V., Lupenko S.A., Marushchak P.O. // Optoelectronics, Instrumentation and Data Processing, vol. 49 (2), 2013. -pp. 68-75. ISSN 87566990. [***Scopus, Web of Science***].

Reviewed conference materials (selected)

1. *Demyanchuk N.* The generator of cyclic signals for problems of testing of information systems / Demyanchuk N., Lupenko S. // Proceedings of the 10th International Conference TCSET'2010 Dedicated to the 165th Anniversary of Lviv Polytechnic National University. Lviv-Slavske. — 2010. -p. 298. [***Conference paper***, ***Scopus***].

2. *Lytvynenko I.* Software for segmentation, statistical analysis and modeling of surface ordered structures / Lytvynenko, I.V., Maruschak, P.O., Lupenko, S.A., Menou, A., Panin, S.V. // AIP Conference Proceedings. Mechanics, Resource and Diagnostics of Materials and Structures MRDMS-2016. Vol. 1785. Published by the American Institute of Physics 2016. – pp. 030012-1-030012-7. [***Conference paper***, ***Scopus, Web of Science***].

3. *Lytvynenko I.* Diagnostic features of relief formations on the nanostructured titanium VT1-0 surface after laser shock-wave treatment / Lytvynenko I.V., Lupenko S.A., Maruschak P.O., Panin S.V., Hats Yu.I. // IOP Conference Series: Materials Science and Engineering, vol.177 no.1. – IOP Publishing 2017. –pp. 012084-1 – 012084-6. [***Conference paper***, ***Scopus, Web of Science***].

4. *Lupenko S.* Organization of the content of academic discipline in the field of information technologies using ontological approach / Lupenko S., Pasichnyk V., Kunanets N. // The International Conference on Computer Science and Information Technologies. Advances in intelligent systems and computing III. CSIT 2018 September 11-14, Lviv, Ukraine. pp.312-327. ISBN 978-3-030- 01069-0. [***Conference paper***, ***Scopus***].

5. *Lupenko S.* Modeling and signals processing using cyclic random functions / Lupenko S., Orobchuk O., Stadnik N., Zozulya A. // 13th IEEE International Scientific and Technical Conference on Computer Sciences and Information Technologies (CSIT), September 11-14 2018. — Lviv, Ukraine, 2018. —T. 1, pp. 360-363. ISBN 978-1-5386-6463-6. [***Conference paper***, ***Scopus, Web of Science***].

6. *Lupenko S.* Axiomatic-deductive strategy of the organization of the content of academic discipline in the field of information technoligies using the ontological approach / Lupenko S., Pasichnyk V., Kunanets N. // 13th IEEE International Scientific and Technical Conference on Computer Sciences and Information Technologies (CSIT), September 11-14 2018. — Lviv, Ukraine, 2018. —T. 1, pp. 387-390. ISBN 978-1-5386-6463-6. [***Conference paper***, ***Scopus, Web of Science***].

7. *Lupenko S.* The Axiomatic-Deductive Strategy of Knowledge Organization in Onto-based e-learning Systems for Chinese Image Medicine / Lupenko S., Pasichnyk V., Kunanets N., Orobchuk O., Xu M. // The 1st International Workshop on Informatics & Data-Driven

Madicine. (IDDM). November 28-30, 2018. – Lviv, Ukraine. –pp.126-134. ISSN 1613-0073. [***Conference paper***, ***Scopus, Web of Science***].

8. *Lupenko S*. The Ontology as the Core of Integrated Information Environment of Chinese Image Medicine / Lupenko S., Orobchuk O., Mingtang Xu. // International Conference on Computer Science, Engineering and Education Applications. ICCSEEA 2019: Advances in Computer Science for Engineering and Education II. AISC, vol. 938, 2019. –pp. 471-481. [***Conference paper***, ***Scopus***].

9. *Lupenko S*. Logical-Structural Models of Verbal, Formal and Machine-Interpreted Knowledge Representation in Integrative Scientific Medicine / Lupenko S., Orobchuk O., Xu M. // 14th International Scientific and Technical Conference on Computer Science and Information Technologies, CSIT 2019, Lviv, 17 September 2019 through 20 September 2019: Advances in Intelligent Systems and Computing, 2020, 1080 AISC, pp. 139–153. ISBN978-3-030-33694-3. [***Conference paper***, ***Scopus***].

10. *Lupenko S*. Onto-oriented expert system for supporting diagnostic and therapeutic decisions in the field of Chinese image medicine / Lupenko S., Orobchuk O., Mingtang Xu, Horkunenko A. // 2019 IEEE 14th International Conference on Computer Sciences and Information Technologies (CSIT), Lviv, Ukraine, 2019, -pp. 210-213. [***Conference paper***, ***Scopus***].

11. *Lupenko S*. The conceptual foundations of the axiomatic-deductive strategy of e-learning course knowledge organization with high semantic quality / Lupenko S., Pasichnyk V., Kunanets N., Horkunenko A. // 2019 IEEE 14th International Conference on Computer Sciences and Information Technologies (CSIT), Lviv, Ukraine, 2019, -pp. 201-204. [***Conference paper***, ***Scopus***].

12. *Lupenko S*. Methods and Means of Knowledge Elicitation in Chinese Image Medicine for Achieving the Tasks of Its Ontological Modeling / Lupenko S., Orobchuk O., Osukhivska H., Xu M., Pomazkina T. // 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering, UKRCON 2019 - Proceedings, 2019, pp. 855–858, 8879851. [***Conference paper***, ***Scopus, Web of Science***].

13. *Lupenko S*. An approach to constructing a taxonomic tree of models cyclic signals in the tasks of developing an onto-oriented system for decisions supporting of models choice / Lupenko S., Stadnyk N., Nnamene C. // 9th International Conference on Advanced Computer Information Technologies (ACIT), June 5-7, 2019 in Ceske Budejovice, Czech Republic. –pp. 89-92. ISBN 978-1-7281-0449-2. [***Conference paper***, ***Scopus, Web of Science***].

14. *Lupenko S*. The Modeling and Diagnostic Features in the Computer Systems of the Heart Rhythm Analysis with the Increased Informativeness / Lupenko S., Lutsyk N., Yasniy O., Zozulia A. // 9th International Conference on Advanced Computer Information Technologies (ACIT)" June 5-7, 2019 in Ceske Budejovice, Czech Republic. -pp. 121-124. [***Conference paper***, ***Scopus, Web of Science***].

15. *Lupenko S*. Modification of the Software System for the Automated Determination of Morphological and Rhythmic Diagnostic Signs by Electrocardio Signals / Lupenko S., Lytvynenko I., Stadnyk N., Osukhivska H., Kryvinska N. // The 1st International Workshop on Intelligent Information Technologies & Systems of Information Security (IntelITSIS-2020). Khmelnytskyi, Ukraine, June 10-12, CEUR Workshop Proceedings, 2020, 2623, pp. 36–46. [***Conference paper***, ***Scopus, Web of Science***].

16. *Lytvynenko I*. Approaches to statistical processing of rhythmocardiosignal with increased resolution / Lytvynenko I., Lupenko S., Kharchenko V., Horkunenko A., Zozulya A. // CEUR Workshop Proceedings, 2020, 2711, pp. 121–136. [***Conference paper***, ***Scopus***].

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