

Publications
Kachiashvili Kartlos

Books

Published Monographs

1. * Kachiashvili K.J. (1989) Bayesian algorithms of many hypothesis testing. Ganatleba, Tbilisi, 144 p. (In Russian)
2. ** Primak A.V., Kafarov V.V. and Kachiashvili K.J. (1991) System Analysis of Control and Management of Air and Water Quality. Naukova Dumka, Kiev, 360 p. (Science and technical progress) (In Russian)
3. Kachiashvili K.J., Gordeziani D.G. and Melikdzhanian D.I. (2007) Mathematical models, methods and algorithms of control and regulation of water quality in rivers. Georgian Technical University, Tbilisi, 251 p. (In Russian)
4. Kachiashvili K.J. and Melikdzhanian D.I. (2012) Advanced Modeling and Computer Technologies for Fluvial Water Quality Research and Control. Nova Science Publishers, Inc., New York, 348 p. (In English)
http://www.novapublishers.org/catalog/advanced_search_result.php?keywords=Kachiashvili&x=15&y=11
5. Kachiashvili K.J., Melikdzhanian D.I. and Prangishvili A.I. (2015) Computing Algorithms for Solutions of Problems in Applied Mathematics and Their Standard Program Realization. Part 1-Deterministic Mathematics. Nova Science Publishers, Inc., New York, 372 p. (In English)
http://www.novapublishers.org/catalog/advanced_search_result.php?keywords=Kachiashvili&x=15&y=11
6. Kachiashvili K.J., Melikdzhanian D.I. and Prangishvili A.I. (2015) Computing Algorithms for Solutions of Problems in Applied Mathematics and Their Standard Program Realization. Part 2- Stochastic Mathematics. Nova Science Publishers, Inc., New York, 358 p. (In English)
http://www.novapublishers.org/catalog/advanced_search_result.php?keywords=Kachiashvili&x=15&y=11
7. Kachiashvili K.J. (2018) Constrained Bayesian Methods of Hypotheses Testing: A New Philosophy of Hypotheses Testing in Parallel and Sequential Experiments. Nova Science Publishers, Inc., New York, 361 p. (In English)
<https://novapublishers.com/shop/constrained-bayesian-methods-of-hypotheses-testing-a-new-philosophy-of-hypotheses-testing-in-parallel-and-sequential-experiments/>

Published Text-Books

1. Kachiashvili K.J. (2004) Models of computer-aided management. Statistical models. Georgian Technical University, Tbilisi, 137 p. (text-book) (In Georgian and Russian)

2. Kachiashvili K.J. and Nurani B. (2013) Statistical Models and Simulation by SPSS. Publisher “Alfabeta”, Bandung, Indonesia, 353 p. (text-book) (In English).
3. Kachiashvili K.J. (2013) Business Process Modeling, Georgian Technical University, 237 p. (electronic text-book translated and composed on the basis of firm's manual from English) (In Georgian).
http://gtu.ge/elbooks/ims_books.php
4. Kachiashvili K.J. (2021) Machine learning, textbook (lecture course) for university students, prepared by K.J. Kachiashvili with translation of certain Items of the book "M. Bishop, Pattern Recognition and Machine Learning, Springer Verlag “ (In Georgian). p. 335.
5. Kachiashvili K.J. (2021) Machine learning methods and algorithms (methodical instructions for seminar work). "IT Consulting Scientific Center" of GTU, Tbilisi, M. Kostava 77 (In Georgian). p. 28.
https://gtu.ge/book/14_kachiashviliMetod_Doct.pdf

* - publications directly extracted from the thesis of Candidate of Sciences (PhD);

** - publications directly extracted from the thesis of Doctor of Sciences.

Refereed Journal Publications

2021

1. Kachiashvili K.J. (2021) Constrained Bayesian Rules for Testing Statistical Hypotheses. Ed-s B. K. Sinha and S. B. Bagchi, Strategic Management, Decision Theory, and Decision Science, Springer Nature book (ISBN 978-981-16-1368-5), 159-176. https://doi.org/10.1007/978-981-16-1368-5_11
2. Kachiashvili K.J. (2021) Existing Approaches and Development Perspectives for Inferences. International Journal of Statistics in Medical Research, 10, 63-71. Scopus

2020

3. Kachiashvili K.J. (2020) Information Technologies for Control and Management of Environmental Water Quality. Acta Scientific Microbiology, 3(11): 89-94. IF 1.282
4. Kachiashvili K.J. and Kachiashvili J.K. (2020) Indexes for Classification of Populations According to the Intensity of Cancer Diseases. Advances in Cancer Research & Clinical Imaging, 2(4), 1-6. ACRCI.MS.ID.000543. DOI: 10.33552/ACRCI.2020.02.000543. CIF =4.341
<https://irispublishers.com/acrci/pdf/ACRCI.MS.ID.000543.pdf>
5. Kachiashvili K.J., Kachiashvili J.K. and Prangishvili I.A. (2020) CBM for Testing Multiple Hypotheses with Directional Alternatives in Sequential Experiments. Sequential Analysis, 39:1, 115-131, DOI: 10.1080/07474946.2020.1727166 IF
<https://doi.org/10.1080/07474946.2020.1727166>

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6. Kachiashvili K.J. (2019) An Example of Application of CBM to Intersection-Union Hypotheses Testing. *Biomed J Sci & Tech Res*, 19(3), p. 14345-14346. BJSTR.MS.ID.003304. IF 1.095
7. Kachiashvili K.J. (2019) Modern State of Statistical Hypotheses Testing and Perspectives of its Development. *Biostat Biometrics Open Acc J.*; 9(2): 555759. 1-4, DOI: 10.19080/BBOAJ.2019.09.55575902 IF <https://juniperpublishers.com/bboaj/pdf/BBOAJ.MS.ID.555759.pdf>
8. Kachiashvili K.J., Prangishvili I.A. and Kachiashvili J.K. (2019) Constrained Bayesian Methods for Testing Directional Hypotheses Restricted False Discovery Rates. *Biostat Biometrics Open Acc J* 9(3): BBOAJ.MS.ID.555761. IF <https://juniperpublishers.com/bboaj/articleinpress-bboaj.php>

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9. Kachiashvili K.J., Bansal N.K. and Prangishvili I.A. (2018) Constrained Bayesian Method for Testing the Directional Hypotheses. *Journal of Mathematics and System Science*, 8, 96-118, doi: 10.17265/2159-5291/2018.04.002 IF
10. Kachiashvili K.J. (2018) On One Aspect of Constrained Bayesian Method for Testing Directional Hypotheses. *Biomed J Sci & Tech Res*, 2(5). BJSTR.MS.ID.000821. DOI: 10.26717/BJSTR.2018.02.000821 IF
11. Kachiashvili K.J. and Melikdzhanian D.I. (2018) Estimators of the Parameters of Beta Distribution, *Sankhya B: The Indian Journal of Statistics*, 81(2), 350-373, DOI: 10.1007/s13571-018-0157-2 IF
12. Kachiashvili K.J. and Prangishvili A.I. (2018) Verification in biometric systems: problems and modern methods of their solution, *Journal of Applied Statistics*, 45(1), 43-62, DOI: 10.1080/02664763.2016.1267122 IF
13. Kachiashvili K.J. (2018) Systems Analysis of Environmental Water Quality Control and Management and some Appropriate Modern Software, *Ecology, Pollution and Environmental science: Open Access (EEO)*, 1(1): 50-57, <http://hendun.org/journals/EEO/PDF/EEO-18-1-112.pdf>

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14. Kachiashvili K.J. (2017) EDITORIAL: Some Ways of Resolution of Current Environmental Problems. *MOJ Ecology & Environmental Science* 2(7): 00049. DOI: 10.15406/mojes.2017.02.00049.
15. Kachiashvili K.J. (2017) The Impact of Applied Agricultural Technologies on the Productivity of Agricultural Lands. *International Journal of Research Studies in Agricultural Sciences (IJRSAS)*, Volume 3 Issue 4, pp. 9-21. ISSN 2454-6224, <http://dx.doi.org/10.20431/2454-6224.0304002>
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16. Kachiashvili K.J. and Melikdzhanian D.I. (2016) Software for Pollutants Transport in Rivers and for Identification of Excessive Pollution Sources. *MOJ Ecology & Environmental Science*, Volume 1 Issue 1, pp. 1-8.
<http://medcraveonline.com/MOJES/current-issue>
17. Kachiashvili K.J. (2016) Constrained Bayesian Method of Composite Hypotheses Testing: Singularities and Capabilities. *International Journal of Statistics in Medical Research*, Vol. 5, No. 3, pp. 135-167. Scopus
18. Kachiashvili K.J. (2016) EDITORIAL: Inference in Clinical Experiments. *International Journal of Statistics in Medical Research*, Vol. 5, No. 3, pp. 133-134. Available at:
<http://www.lifescienceglobal.com/journals/international-journal-of-statistics-in-medicalresearch/volume-5-number-3> Scopus
19. Kachiashvili K.J. and Topchishvili A.L. (2016) Estimators of the Parameters of Irregular Right-Angled Triangular Distribution. *Model Assisted Statistics and Applications*, 11, 179-184. DOI 10.3233/MAS-150362 IF

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20. Kachiashvili K.J. and Melikdzhanian D.I. (2015) Software for statistical hypotheses testing. *International Journal of Modern Sciences and Engineering Technology (IJMSET)*, Volume 2, Issue 4, 2015, pp.33-52, ISSN 2349-3755; Available at:
<https://www.ijmset.com/current-issue.html> Indexed in SCOPUS and CPCI
21. Kachiashvili, K.J. (2015) Constrained Bayesian Method for Testing Multiple Hypotheses in Sequential Experiments. *Sequential Analysis: Design Methods and Applications*, Vol. 34, Issue 2, 171-186 DOI: 10.1080/07474946.2015.1030973 IF

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22. Kachiashvili K.J. (2014) Comparison of Some Methods of Testing Statistical Hypotheses. Part I. Parallel Methods. *International Journal of Statistics in Medical Research*, 3, 174-189. SCOPUS
23. Kachiashvili K.J. (2014) Comparison of Some Methods of Testing Statistical Hypotheses. Part II. Sequential Methods. *International Journal of Statistics in Medical Research*, 3, 189-197. SCOPUS
24. Kachiashvili K.J. (2014) The Methods of Sequential Analysis of Bayesian Type for the Multiple Testing Problem. *Sequential Analysis*, 33(1), 23-38 DOI: 10.1080/07474946.2013.843318 IF
25. Kachiashvili K.J. (2014) Investigation of the method of sequential analysis of Bayesian type. *Journal of Advances in Mathematics*. Vol. 18, No. 1, p. 1367-1380. IF=1.688
26. Kachiashvili K.J. (2014) Probability of errors in sequential methods of Bayesian type. *Reports of Enlarged Session of the Seminar of I. Vekua Institute of Applied Mathematics*, Vol. 28, 58-61. SCOPUS

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27. Kachiashvili, K.J. & Mueed, A. (2013) Conditional Bayesian Task of Testing Many Hypotheses, *Statistics: A Journal of Theoretical and Applied Statistics*, 47, 2, 274-293. IF

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28. Kachiashvili K.J., Hashmi M.A. and Mueed A. (2012) Quasi-optimal Bayesian procedures of many hypotheses testing. *Journal of Applied Statistics*, Vol. 40, No. 1, 103–122. IF
29. Kachiashvili G.K., Kachiashvili K.J. and Mueed A. (2012) Specific Features of Regions of Acceptance of Hypotheses in Conditional Bayesian Problems of Statistical Hypotheses Testing. *Sankhya : The Indian Journal of Statistics*, Volume 74, Issue 1, pp 112-125. IF
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31. Kachiashvili K.J. and Hashmi M.A. (2012) Computation of the Multivariate Normal Integral over a Complex Subspace, *Applied Mathematics*, Vol. 3 No. 5, 489-498. IF
32. Kachiashvili K.J., Hashmi M. A. and Mueed A. (2012) The Statistical Risk Analysis as the Basis of the Sustainable Development. *Int. J. of Innovation and Technol. Management (World Scientific Publishing Company)*, Vol. 9, No. 3, 1250024 (2012) [10 pages] DOI: 10.1142/S0219877012500241 Scopus
33. Kachiashvili K.J. and Melikdzhanian D. I. (2012) Program Package for Decision Making/ V. Khachidze et al. (Eds.): *iCETS 2012, CCIS 332 (China)*, Springer-Verlag Berlin Heidelberg, pp. 530–540.

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37. Kachiashvili K.J. and Melikdzhanian D.I. (2010) SDpro – The Software Package for Statistical Processing of Experimental Information. *International Journal Information Technology & Decision Making (IJITDM)*, Vol. 9, No 1, 115-144. IF=2.22

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41. Kachiashvili K.J., Hashmi M. A. and Mueed A. (2009) Bayesian Methods of Statistical Hypothesis Testing for Solving Different Problems of Human Activity. Applied Mathematics and Informatics (AMIM), Vol. 14, No. 2, pp. 3-17. SCOPUS
42. Kachiashvili K.J. and Hashmi M.A. (2009) On Analytical Finding Probability Distribution Law of Linear Combination of Exponent of Quadratic Forms of Normally Distributed Random Vectors. Proceedings of 4th World Conference on 21st Century Mathematics 2009, March 4-8, 2009, Lahore, Pakistan, 96-105.
43. Kachiashvili K.J. and Mueed A. (2009) The Problem of Choosing Losses Function in Bayesian Problem of Many Hypotheses Testing and Opportunities of Their Overcoming. Proceedings of 4th World Conference on 21st Century Mathematics 2009, March 4-8, 2009, Lahore, Pakistan, 176-194.

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44. Kachiashvili K.J., Hashmi M. A. and Mueed A. (2008) The statistical risk analysis as the basis of the sustainable development. Proceedings of the 4th IEEE International Conference on Management of Innovation & Technology (ICMIT2008), Bangkok, Thailand, 1210-1215.
45. Kachiashvili K.J. and Nurani B.R. (2008) Prediction of Oil Production using Non Linear Regression by SDPro Software (Special Program Package). Proceeding. The 3rd International Conference on Mathematics and Statistics (ICoMS 2008), IPB Bogor, Indonesia, 1038-1045.

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47. Kachiashvili K.J. and Meparishvili B. (2007) Computer Base of medical-sociological data of old citizens of Georgia. Proceedings of Georgian Technical University: computer-aided management systems, No. 1(2), Tbilisi, 181-184.
48. Kachiashvili K.J., Kutsiava N. and Tsintsadze G. (2007) Dependence of air pollution level on the frequency of refusals of the technological process of ammonia. Georgian Engineering News, No. 2, 69-72.

49. Kachiashvili K.J., Kutsiava N. and Tsintsadze G. (2007) Identification of dependence among some ingredients of air pollution. Georgian Engineering News, No. 2, 66-68.

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50. Kachiashvili K.J. and Melikdzhanian D.I. (2006) Identification of River Water Excessive Pollution Sources. International Journal of Information Technology & Decision Making, World Scientific Publishing Company, Vol.5, Issue 2, 397-417. IF=2.22
51. Kachiashvili K.J. and Melikdzhanian D.I. (2006) Parameter optimization algorithms of difference calculation schemes for improving the solution accuracy of diffusion equations describing the pollutants transport in rivers. International Journal Applied Mathematics and Computation, 183, 787-803. IF=4.091
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56. Kachiashvili K.J. and Nakani D.V. (2005) Research of dependences of agricultural cultures harvests and their ecological quality from contents in soil of different forms of nitrates, phosphates and potassium. Proceedings of the 2nd International Congress "SUSTAINABLE MANAGEMENT IN ACTION", SMIA 05, University of Geneva, UNIMAIL, 103-107. <http://www.smia.info/en-page.14.5.html>
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58. Kachiashvili K.J. and Melikdzhanian D.I. (2005) The methods of the definite class nonlinear functions interpolation with practical examples. Applied Mathematics and Informatics (AMIM), Vol. 10, No. 2, 37-52. SCOPUS http://www.viam.hepi.edu.ge/Ami/2005_2/kachiashvili2.pdf
59. Kachiashvili K.J. and Melikdzhanian D.I. (2005) The optimization problems of algorithms connected with different calculation schemes of difference equations. Proceedings of the NATO Advanced Research Workshop on Air, Water and Soil

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63. Kachiashvili K.J. and Nakani D.V. (2004) Research of influence of traditional and modern agricultural methods and technology on a level of pollution of the rivers both agricultural areas. Proceedings, 2004 IEEE International Engineering Management Conference, Innovation and Entrepreneurship for Sustainable Development, Vol. 3 of 3, Singapore, 1314-1318.
https://www.researchgate.net/publication/4131381_Research_on_influence_of_traditional_and_modern_agricultural_methods_and_technology_on_a_level_of_pollution_of_the_rivers_both_agricultural_areas

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65. Kachiashvili K.J. (2003) Environmental water objects pollution level control and management systems. Collection of reports SMIA03, 4th-6th September, University of Geneva, UniMail, 477-481.
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71. Kachiashvili K.J. and Melikdzhanian D.I. (2001) Construction of confidence intervals for mathematical expectation of random variables of a certain type. Industrial laboratory, No. 3, Vol. 67, 59-63. IF
72. Kachiashvili K.J., Gordeziani D.G. and Melikdzhanian D.I. (2001) Mathematical models of dissemination of pollutants with allowance for of many sources of effect. Proceeding of the Urban Drainage Modeling Symposium, May, 20-24, Orlando, Florida, 692-702.
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2. Kachiashvili K.J. (2021) Existing Approaches and Development Perspectives for Inferences. The XXXV International Enlarged Sessions of the Seminar of Ilia Vekua Institute of Applied Mathematics of Ivane Javakhisvili Tbilisi State University, Tbilisi, Georgia, 21-24 April, 2021.
3. Kachiashvili K.J. Testing hypotheses concerning equal parameters of normal distribution. XI International Conference of the Georgian Mathematical Union, 23-28 August, Batumi, Georgia. Book of Abstracts, 115.
4. Kachiashvili K.J. Parameters’ Estimation of Some Irregular Probability Distributions. International Conference „Recent Trends in Statistical Theory and Applications (WSTA 2021)“, 29 June to 01 July, 2021, Trivandrum, India. <https://sites.google.com/keralauniversity.ac.in/wsta-2021/home>

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5. Kachiashvili K.J. Constrained Bayesian Methods for Testing Different Types of Hypotheses. Sixth International Conference on Statistics for Twenty-first Century-2020 (ICSTC 2020), December 16-19, 2020, Trivandrum, India. <https://sites.google.com/keralauniversity.ac.in/icstc-2020/home>
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Conference and Workshops Presentations

1. Kachiashvili K.J. (1984) The purpose and methods of imitating modelling of processes of formation of natural waters quality. Republican conference "Ecology and rational use of the natural resources of southern region of Ukraine", Sevastopol, Ukraine.
2. Kachiashvili K.J. (1992) Systematische Grundlagen des Umweltverschmutzungsmonitors. Deutch-Georgische Fachtagung rum Thema Okologisches Meeres-Monitiring in Toning, Geesthacht und Bonn vom 21-28 November, 1992.
3. Kachiashvili K.J. (2000) Software Packages for Automation of Environmental Monitoring and Experimental Data Processing of Hydrometeorology and Climatologic. Technical conference on World Meteorology Organization Information Systems and Services, Geneva, Switzerland, 27-28 November.
4. Kachiashvili K.J. (2002) Creation of Information System for Monitoring of Quality and Quantity of Water in Trans boundary River basins. Workshop "Ecological and Health Threat Associated with Environmental Contamination", Kiev, Ukraine, 15-17 October.
5. The ECO-NET workshop on "Ship hull deflection monitoring", October 20-21, 2008, IFREMER, Brest, France.
6. I had a financial support of IFREMER (France) for participation in the work of the workshop on "Hybrid Deflection Monitoring System – HDMS", organized in frames of ECO-NET program (reference number 18860NM), in August, 2008, Brest, France but could not get the visa on time in Pakistan.
7. Workshop on "Hybrid Deflection Monitoring System – HDMS", organized in frames of ECO-NET program (reference number 18860NM), on 2-3 December, 2008, Tallinn, Estonia.

8. The Ship Hull Deformation Monitoring – HDMS project (ECO-NET – EGIDE program), IFREMER Research Center, Brest, France, 29-30 June, 2009.
9. Workshop on “Hybrid Deflection Monitoring System – HDMS”, organized in frames of ECO-NET program (reference number 18860NM), on 2-3 November, 2009, Tallinn, Estonia.
10. Workshop of Georgian Scientists Working outside of Georgia, Organized by Government of Georgia, September 20-22, 2010, Tbilisi, Georgia.