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Gia Sirbiladze (Short CV)

Experience

- 2005-present Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia, Full Professor, Faculty of Exact and natural Sciences, Department of Computer Sciences. Head of Chair of Applied Informatics
- 1994-2005 Tbilisi State University, Tbilisi, Georgia, Professor, Faculty of Applied Mathematics and Computer Sciences, Chair of Random Processes Theory.
- 1981-1994 Tbilisi State University Tbilisi, Georgia, Docent, Faculty of Applied Mathematics and Computer Science, Chair of Random Processes Theory.

Education

- N. Muskhelishvili Institute of Computational Mathematics of Georgian Academy of Sciences, Tbilisi, Georgia, Doctor of Phys. Math. Sci (Probability Theory and Statistics).
- 1990 Institute of Applied Mathematics of Georgian Academy of Sciences, Tbilisi, Georgia, Ph. D. (Computational Mathematics).
- Tbilisi State University, Tbilisi, Georgia. Faculty of Applied Mathematics and Cybernetics. Diploma in Applied Mathematics and Cybernetics

Research Interests

- 1. Modeling of uncertainty ang imprecision in complex systems' studies,
- 2. Systems science and engineering;
- 3. Computational intelligence;
- 4. Evolutionary programming (genetic algorithms, estimation of distribution algorithms, hybrid algorithms) in the modeling of complex systems;
- 5. Extreme fuzzy dynamic systems control, filtration, identification and prediction;
- 6. Soft-computing methodologies in finances and management;
- 7. Fuzzy technologies in decision-making intelligent support systems;
- 8. Multi-person, multi-criteria (multi-attribute) fuzzy decision making technologies;

- 9. Fuzzy aggregation operators in expert knowledge engineering and decision making. Theory and application;
- 10. Fuzzy optimization and decision making:
 - a) Fuzzy covering and partitioning problems;
 - b) Fuzzy vehicle routing problems for extreme environment –intelligent support systems;
 - c) Fuzzy facility location problems for extreme environment -intelligent support systems;
 - d) Fuzzy multi-objective emergency location-transportation problems (for post-disaster regions) –intelligent support systems;

Teaching Courses

Modeling and Simulation, Applied Statistics, Intelligent Systems, Intelligent Decision Support Systems, Genetic Algorithms, Neural Networks, Evolutionary Programming.

Performed Selected Projects

- 2022-2025 Fuzzy model of planning humanitarian aid distribution centers location and goods transportation routes in the disaster-stricken zones (Shota Rustaveli National Scientific Foundation (SRNSF), Georgia: FR-21-2015, principal investigator)
- 2019-2021 Fuzzy Aggregations for Emergency Location and Transportation Planning (SRNSF: FR-18-466, principal investigator).
- 2017-2018 Planning of facilities location and goods transportation in extreme situations (SRNSF: STCU-2016-04 & The Science and Technology Center in Ukraine (STCU) #6297, principal investigator)
- 2015-2017 The New Model of Vehicle Routes Planning in Extreme and Uncertain Environment (SRNSF: AR/26/5-111/14, principal investigator).
- 2014-2015 Intelligent Support System for Optimal Route Planning for Transportation of Goods (SRNSF:/23/4-102/13 & STCU: #5891, principal investigator).
- 2013-2014 Decision Making Operators and Schemes in Fuzzy Uncertainty Environment (SRNSF: D0/140/4-102/13, principal investigator).
- 2009-2010 Decision-Making Support Fuzzy-Technologies in Expert Valuations Streams (SRNSF: ST 08 1-361, principal investigator).

Selected Publications

Books

Gia Sirbiladze, Extremal Fuzzy Dynamic Systems. Theory and Applications. IFSR International Series on Systems Science and Engineering, Springer, New York- Heidelberg-Dordrecht- London, 422 p.28, 2013.

Papers

- 1.G. Sirbiladze, N. Zaporozhets, About two Probability Representations of Fuzzy Measures on a Finite Set. The Journal of Fuzzy Mathematics. Los Angeles, The International Fuzzy Mathematics Institute, USA, Vol.10, No.3, 2003, 1-17;
- 2.G. Sirbiladze, A. Sikharulidze, Weighted Fuzzy Averages in Fuzzy Environment, Part I. Insufficient Expert Data and Fuzzy Averages. International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems. Vol.11, No.2, 2003, 139-158;
- 3. G. Sirbiladze, A. Sikharulidze, Weighted Fuzzy Averages in Fuzzy Environment, Part II. Generalized Weighted Fuzzy Expected Values in Fuzzy Environment. International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems. Vol. 11, No.2, 2003, 159-172;

- 4. G. Sirbiladze, Fuzzy Subset Construction through the Associated Probabilities. Bulletin of the Georgian Academy of Sciences, 163, N3, 2001, 436-440;
- 5. G. Sirbiladze, N. Zaporozhets, Choquet's Capacity of Order Two in the Murofushi-Sugeno's Probability Representation of a Fuzzy Measure. Bulletin of the Georgian Academy of sciences, 165, N2, 2002, 235-238;
- 6. G. Sirbiladze, B. Gvaberidze, Possibilty Analysis of the Fuzzy Covering Problem. Bulletin of the Georgian Academy of Science, 167, N1, 2003,47-50;
- 7. G. Sirbiladze, F.Criado, T.Gachechiladze, Theory of Conectivity and Apportionment of Representative Chains in the Problem of Decision-making Concerning Earthquake Possibility. International Journal of General Systems, 32, No.2, 2003, 103-121;
- 8. G. Sirbiladze, T.Gachechiladze, Restored Fuzzy Measures in Expert Decision-Making. Information Sciences. An International Journal. 169 (1/2), 2005, 71-95;
- 9. G. Sirbiladze, Modeling of Extremal Fuzzy Dynamic Systems. Part I: Extended Extremal Fuzzy Measures. International Journal of General Systems. 34,2, 2005, 107-138;
- 10. G. Sirbiladze, Modeling of Extremal Fuzzy Dynamic Systems. Part II: Extended Extremal Fuzzy Measures on Composition Products of Measurable Spaces. International Journal of General Systems. 34,2, 2005, 139-167;
- 11. G. Sirbiladze, Modeling of Extremal Fuzzy Dynamic Systems. Part III: Modeling of Extremal and Controllable Extremal Fuzzy Processes. International Journal of General Systems. 34,2, 2005, 169-198;
- 12. G. Sirbiladze, About a Universal Representation-Interpretator of a Fuzzy Measure. Bulletin of the Georgian Academy of Sciences. 170, N3,2004, 454-457;
- 13.G. Sirbiladze, Modeling of Extremal Fuzzy Dynamic Systems. Part IV: Identification of Fuzzy-Integral Models of Extremal Fuzzy Processes. International Journal of General Systems. 35, 4, 2006, 435-459;
- 14. G.Sirbiladze, Modeling of Extremal Fuzzy Dynamic Systems. Part V: Optimization of Continuous Controllablale Extremal Fuzzy Processes and the Choice of Decisions. International Journal of General Systems. 35, 5, 2006, 529-554;
- 15. G.Sirbiladze, Modeling of Extremal Fuzzy Dynamic Systems. Part VI: Problems of States Estimation (Filtration) of Extremal Fuzzy Process. International Journal of General Systems. 36,1 2007, 19-58.
- 16.G. Sirbiladze, Transformation Theorems for Extended Lower and Upper Sugeno Integrals. Mat. Zametki, 2008, Volume 83, Issue 3, Pages 439-460.
- 17. G.Sirbiladze, On Fuzzy Optimal Controls in the Weakly Structurable Continuous Dynamic Sysytems (WSCDS). New Mathematics and Natural Computation. 4,1 2008, 41-60.
- 18.G. Sirbiladze, B. Ghvaberidze, T. Latsabidze, B. Matsaberidze, Using Minimal Fuzzy Covering in Decision-making Systems. Information Sciences. An International Journal, 179, 2009, 2022-2027.

- 19. G. Sirbiladze, A. Sikharulidze, N. Sirbiladze, Fuzzy Programming Problem in the Weakly Structurable Dynamic System and Choice of Decisions. WSEAS Transactions on Systems and Control, Issue 11, vol. 3, 2008, 937-953.
- 20. G. Sirbiladze, Fuzzy Dynamis Programming Problem for Extremal Fuzzy Dynamic System, in "Studies in Fuzziness and Soft Computing", 2010, Vol. 254, "Fuzzy optimization", 231-270.
- 21. G. Sirbiladze: Fuzzy Identification Problem for Continuous Extremal Fuzzy Dynamic System, Fuzzy Optimization and Decision Making, 2010, vol. 9, N. 3, 233-274.
- 22. G. Sirbiladze, A. Sikharulidze, B. Ghvaberidze, and B. Matsaberidze, Fuzzy probabilistic aggregations in the discrete covering problem', International Journal of General Systems, 2011, 40: 2, 169 196.
- 23. Gia Sirbiladze, Extremal Fuzzy Dynamic Systems. Theory and Applications. IFSR International Series on Systems Science and Engineering, Springer, New York- Heidelberg-Dordrecht- London, 422 p.28, 2013.
- 24. G. Sirbiladze, I. Khutsishvili and B. Ghvaberidze, Multistage decision-making fuzzy methodology for optimal investments based on experts' evaluations, European Journal of Operational Research, Elsevier pub., 232, 2014, 169–177.
- 25. G. Sirbiladze, B. Ghvaberidze, B. Matsaberidze, Bicriteria Fuzzy Vehicle Routing Problem for Extreme Environment. Bulletin of the Georgian National Academy of Sciences, vol. 8, no. 2, 41-48, 2014.
- 26. G.Sirbiladze, K. Gelashvili, I. Khutsishvili and A. Sikharulidze, Temporalized Structure of Bodies of Evidence in the Multi-Criteria Decision-Making Model, International Journal of Information Technology & Decision Making, Vol. 14, No. 03, pp. 565-596, 2015.
- 27. G. Sirbiladze, New Fuzzy Aggregation Operators Based on the Finite Choquet Integral Application in the MADM Problem, International Journal of Information Technology & Decision Making 15(3) (2016) 517-551.
- 28. G. Sirbiladze, O. Badagadze, Intuitionistic Fuzzy Probabilistic Aggregation Operators Based on the Choquet Integral: Application in Multicriteria Decision-Making, International Journal of Information Technology & Decision Making, 2017, Vol. 16, No. 01: pp. 245-279.
- 29. G. Sirbiladze, B. Ghvaberidze, B. Matsaberidze and A.Sikharulidze, Multi-Objective Emergency Service Facility Location Problem Based on Fuzzy TOPSIS, Bulletin of the Georgian National Academy of Sciences, 11(1), 23-30, 2017.
- 30. Roberto Santana, Gia Sirbiladze, Bezhan Ghvaberidze and Bidzina Matsaberidze, A comparison of probabilistic-based optimization approaches for vehicle routing problems, 2017 IEEE Congress on Evolutionary Computation (CEC), IEEE Xplore, 2017, 2606-2613.
- 31. Roberto Santana, Gia Sirbiladze, Bezhan Ghvaberidze and Bidzina Matsaberidze, A comparison of probabilistic-based optimization approaches for vehicle routing problems, 2017 IEEE Congress on Evolutionary Computation (CEC), IEEE Xplore, 2017, 2606-2613
- 32. Gia Sirbiladze, Irina Khutsishvili, Otar Badagadze and Gvantsa Tsulaia, Associated Probability Intuitionistic Fuzzy Weighted Operators in Business Start-up Decision Making, Iranian Journal of Fuzzy Systems, 15(5), 1-25, 2018.
- 33. Gia Sirbiladze, Anna Sikharulidze, Extentions of Probability Intuitionistic Fuzzy Aggregation Operators in Fuzzy Environmet, International Journal of Information Technology & Decision Making, 17(2), 621-655, 2018.

- 34. G. Sirbiladze, B. Ghvaberidze, B. Matsaberidze, G. Mgeladze, G. Bolotashvili and Z. Modebadze, Fuzzy Choquet Integral Aggregations in Multi-Objective Emergency Service Facility Location Problem, Bulletin of the Georgian National Academy of Sciences 12(1), 45-53, 2018.
- 35. G. Sirbiladze, B. Ghvaberidze and B. Matsaberidze, Fuzzy Aggregation Operators Approach in Location/Transportation Problem, Bulletin of the Georgian National Academy of Sciences 12(3) 32-38, 2018.
- 36. G. Sirbiladze, I. Khutsishvili, B. Midodashvili, Associated Immediate Probability Intuitionistic Fuzzy Aggregations in MCDM, Computers & Industrial Engineering, 123, 1-8, 2018).
- 37. J. Kacprzyk, Y. P. Kondratenko, J.M. Merigó, J.H. Hormazabal, <u>G. Sirbiladze</u> and A.M. Gil-Lafuente, A Status Quo Biased Multistage Decision Model for Regional Agricultural Socioeconomic Planning Under Fuzzy Information, Advanced Control Techniques in Complex Engineering Systems: Theory and Applications, in Studies in Systems, Decision and Control, 203, 201-226, 2019.
- 38. G. Sirbiladze, B. Ghvaberidze, B. Matsaberidze, B. Midodashvili, New fuzzy approach to facility location problem for extreme environment, Journal of Intelligent & Fuzzy Systems, 37(6), 7883-7893, 2019.
- 39. Sirbiladze Gia, Associated Probabilities' Aggregations in Interactive MADM for q-Rung Orthopair Fuzzy Discrimination Environment, *Internationa Journal of Intelligent Systems*, 35(3) (2020) 335-372.
- 40. Gia Sirbiladze, Anna Sikharulidze, Bidzina Matsaberidze, Irina Khutsishvili and Bezhan Ghvaberidze, TOPSIS Approach to Multi-Objective Emergency Service Facility Location Selection Problem under Q-Rung Orthopair Fuzzy Information, *Transactions of A. Razmadze Mathematical Institute*, 173(3) (2019) 137-145.
- 41. Gia Sirbiladze and Irina Khutsishvili, Hesitant Fuzzy TOPSIS based Facility Location Selection Problem, Bulletin *of TICMI*, 23(2) 2019 131–141.
- 42. Gia Sirbiladze, Irina Khutsishvili, Hesitant Fuzzy TOPSIS based Investment Projects Selection Problem, *WSEAS Transactions on Systems*, 18 (37) (2019) 296-303.
- 43. Gia Sirbiladze, Irina Khutsishvili, Anna Sikharulidze, Teimuraz Manjapharashvili, Roberto Santana, A New Hesitant Fuzzy TOPSIS Approach in Multi-Attribute Group Decision Making, *Bulletin of the Georgian National Academy of Sciences*, 14(3) 17-22, (2020).
- 44. Janusz Kacprzyk & Gia Sirbiladze, Associated fuzzy probabilities in madm with interacting attributes. application in multi-objective facility location selection problem, *International Journal of Information Technology & Decision Making*, 2022 (Article in press).
- 45. Gia Sirbiladze, Irina Khutsishvili, Anna Sikharulidze, Teimuraz Manjapharashvili, Roberto Santana, A New Hesitant Fuzzy TOPSIS Approach in Multi-Attribute Group Decision Making, *Bulletin of the Georgian National Academy of Sciences* 14(3) 17-22, (2020).
- 46. Gia Sirbiladze, Bidzina Matsaberidze, Bezhan Ghvaberidze, Bidzina Midodashvili and David Mikadze, Fuzzy TOPSIS Based Selection index in the Planning of Emergency Service Facility Location Selection and Goods Transportation, *Journal of Intelligent & Fuzzy Systems*, 41(1) 1949-1962, (2021).

- 47. Harish Garg, Gia Sirbiladze, Zeeshan Ali and Tahir Mahmood, Hamy Mean Operators Based on Complex q-Rung Orthopair Fuzzy Setting and Their Application in Multi-Attribute Decision Making, *Mathematics*. (2021), 9(18) 2312.
- 48. **Gia Sirbiladze**, Associated Probabilities in Interactive MADM under Discrimination q-Rung Picture Linguistic Environment. *Mathematics*. (2021) 9(18), 2337.
- 49. Gia Sirbiladze, New View of Fuzzy Aggregations: Part I: General Information Structure for Decision-Making Model, *Journal of Fuzzy Extention and Applications*, 2(2) (2021)130-143.
- 50. Gia Sirbiladze, New View of Fuzzy Aggregations: Part II: Associated Probabilities in the POWA operator, *Journal of Fuzzy Extention and Applications*, 2(3) (2021) 191-211.
- 51. Gia Sirbiladze, New View of Fuzzy Aggregations: Part III: Extensions of the FPOWA Operator in the Problem of Political Management, *Journal of Fuzzy Extention and Applications*, 2(4) (2021) 321-333.
- 52. Sirbiladze, G., Midodashvili, B., Midodashvili, L., & Siprashvili, D. About One Representation-Interpeter of a Monotone Measure. *Journal of Computational and Cognitive Engineering*, (2022) 1(2) 1–5.
- 53. Gia Sirbiladze, An Identification Model for a Fuzzy Time Based Stationary Discrete Process, *Iranian Journal of Fuzzy Systems*, 19(1) (2022) 169-186.
- 54. Gia Sirbiladze and Teimuraz Manjafarashvil, Connections between Campos-Bolanos and Murofushi-Sugeno Representations of a Fuzzy Measure, Mathematics, (2022) 10(3) 516.
- 55. Gia Sirbiladze, Harish Garg, Bezhan Ghvaberidze, Bidzina Matsaberidze, Irina Khutsishvili and Bidzina Midodashvili, Choquet Integral Based Possibilistic Approach in Multi-Objective Vehicle Routing Problem under Extreme Environment, Artificial Intelligent Review, (accepted for publication) (2022).
- 56. Gia Sirbiladze, Harish Garg, Irina khutsishvili, Bezhan Ghvaberidzem Biszina Midodashvili, Associated Probabilities Aggregations in Multistage Investment Decision-Making, *Kybernetes* (accepted for publication) (2022).
- 57. Sirbiladze, G.; Kacprzyk, J.; Manjafarashvili, T.; Midodashvili, B.; Matsaberidze, B. New Fuzzy Extensions on Binomial Distribution. *Axioms* (2022), 11, 220.
- 58. G. Sirbiladze, J, Kacprzyk, J. A. Lozano, B. Ghvaberidze, B. Midodashvili, B. Matsaberidze, Fuzzy Approach for the Temporary Logistics Hubs' Selection Planning in Disaster Region, IEEE Intelligent Systems IS'22 Conference, *IEEE Proceedings* (article in press), 2022.
- 59. G. Sirbiladze, J, Kacprzyk, J. A. Lozano, B. Ghvaberidze, B. Midodashvili, B. Matsaberidze, Fuzzy Model of Humanitarian Relief Logistics for the Shelters' Location in the Disaster Region and Evacuation of Population, IEEE Intelligent Systems IS'22 Conference, *IEEE Procedings* (article in press), 2022.
- 60. G. Sirbiladze, J, Kacprzyk, J. A. Lozano, B. Ghvaberidze, B. Midodashvili, B. Matsaberidze, Fuzzy Approach to Planning of Service Centers Location and Goods Transportation Routes in the Disaster Region, IEEE Intelligent Systems IS'22 Conference, *IEEE Procedings* (article in press), 2022.

Featured conferences:

- Gia Sirbiladze and Anna Sikharulidze, "Dempster-Shafer Temporalized Belief Structure on Expert Knowledge Streams. Part I. Theoretical Foundations", IEEE 10-th International Conference on Intelligent Systems Desigh and Applications (ISDA 2010)", November 29-December 1, 2010 – Cairo, Egypt.
- 2. Gia Sirbiladze, Irina khutsisvili and Pridon Dvalishvili: "Decisión Precision Fuzzy Technology to Evaluate the Credit Risks of Investment Projects", IEEE 10-th International Conference on Intelligent Systems Desigh and Applications (ISDA 2010)", November 29-December 1, 2010 Cairo, Egypt.
- 3. Gia Sirbiladze, Anna Sikharulidze, Bezhan Ghvaberidze and Bidzin Matsaberidze: "A Possibilistic Aggregation in the Discrete Covering Problems Based on the Expert Valuations", IEEE 10-th International Conference on Intelligent Systems Desigh and Applications (ISDA 2010)", November 29-December 1, 2010 Cairo, Egypt
- 4. Gia Sirbiladze and Anna Sikharulidze, "Generalized Weighted Fuzzy Expected Values in Uncertainty Environment", Proceeding of the 9-th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases. University of Cambridge, UK, February, 20-22, 2010, 59-64.
- 5. Gia Sirbiladze, Anna Sikharulidze, Bezhan Ghvaberidze and Bidzin Matsaberidze: "Possibilistic Aggregations in the Discrete Covering problem: Application in the Problem of Optimal Choice of Alternatives". Proceeding of the 9-th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases. University of Cambridge, UK, February 20-22, 2010, 59-64.
- 6. Gia Sirbiladze, Bezhan Ghvaberidze and Pridon dvalishvili, "On the decreasing of Information Measures in the Information Precision Prosecc", The Third International Conference "Problems of Cybernetics and Informatics", PCI, 2010, Baku, Az. 189-193.
- 7. Gia Sdirbiladze and Irina Khutsishvili, "Combined Decision Presicion Fuzzy Technologies for Credit Risk Evaluations of Bank Investments", The Third International Conference "Problems of Cybernetics and Informatics", PCI, 2010, Baku, Az., 193-197.
- 8. Gia Sirbiladze and Irina Khutsishvili, "Precising fuzzy Technology based Investment Decision-Making", Theses of International Conference «Information and Computational Technologies», Tbilisi, 2-6 May, 2010, 110–113.
- 9. Mikheil Kapanadze and Gia Sirbiladze, Genetic Algorithm Approach for the Identification Problem of the Discrete Possibilistic Dynamic System, 10th WSEAS International Conference on Applied Computer and Applied Computational Science (Acacos '11), Venice, Italy, March 8-10, 2011, Recent Researches in Applied Computer and Applied Computational Science, 122-127.
- 10. Gia Sirbiladze & Anna Sikharulidze, Evaluation of Climate Simulations using Linguistic Variables, 10th WSEAS International Conference on Applied Computer and Applied Computational Science (Acacos '11), Venice, Italy, March 8-10, 2011, Recent Researches In Applied Computer And Applied Computational Science, 127-132.
- 11. Gia Sirbiladze, Irina khutsishvili and Bezhan Ghvaberidze, Fuzzy Modeling of Crediting Risks in Investment Decisions, 14th WSEAS International Conference on Automatic Control, Modelling and Simulation (ACMOS '12), Saint malo & Mont Saint-Mishel, France, April 2-4, 2012, Recent Researches in Automatic Control and Electronics, 29-36.
- 12. Gia Sirbiladze, Mikheil Kapanadze and Anna Sikharulidze, Prediction Problem's Solution for the Finite Possibilistic Model of Expert Knowledge Sreams, 14th WSEAS International Conference on Automatic Control, Modelling and Simulation (ACMOS '12), Saint malo & Mont Saint-Mishel, France, April 2-4, 2012, Recent Researches in Automatic Control and Electronics, 21-28.

- 13. Gia Sirbiladze, Otar Badagadze, Khatia Sirbiladze and Anna Sikharulidze, Possibilistic Aggregations in the Decision-Making Problem regarding the Political Management, Proceedings of the 1st WSEAS International Conference on Information Technology and Computer Networks (ITCN '12), 67-70, Viena, Austria, October 2012.
- 18. Gia Sirbiladze, Irina khutsishvili, Anna Sikharulidze and Bezhan Ghvaberidze, Possibilistic Technologeis for Evaluation of Crediti Risks of Investment Projects, Proceedings of 1st WSEAS International Conference on Information Technology and Computer Networks (ITCN '12), 61-67, Viena, Austria, October 2012
- 14. Gia Sirbiladze, Mikheil Kapanadze, Genetic Algorithm Approach for the Prediction of Business Risks' Dynamics of Enterprise, Proceedings of the 6th International Conference on Application of Information and Communication Technologies (AICT2012), 299–303, Tbilisi, Georgia, September 2012.
- 15. Gia Sirbiladze, Irina Khutsishvili and Bezhan Ghvaberidze, On the new Multistage Fuzzy Technologies to Investment Decisions, Proceedings of the 6th International Conference on Application of Information and Communication Technologies (AICT2012), 313-318, Tbilisi, Georgia, September 2012.
- 16. Gia Sirbiladze, New Possibilistic Aggregations in the Problems of the Strategic Management (Keynote Speech), 6th International Conference on Application of Information and Communication Technologies (AICT2012), 313-318, Tbilisi, Georgia, September 2012.
- 17. Gia Sirbiladze, Otar Badagadze, Khatia Sirbiladze and Gvantsa tsulaia, OWA Type Possibilistic Aggregations in the Problem of the Country Political Management, Transactions of the International Scientific Conference Dedicated to the 90-th Anniversary of Georgian Technical University, 316-321, Tbilisi, Georgia, September, 2012.
- 18. Gia Sirbiladze, Irina khutsishvili and Bezhan Ghvaberidze, Construction of the Possibilistic OWA operator for Evaluatuin of Credit Risks of Investment Projects, Transactions of the International Scientific Conference Dedicated to the 90-th Anniversary of Georgian Technical University, 31-316, Tbilisi, Georgia, September, 2012.
- 19. Gia Sirbiladze and Irina Khutsishvili, New Possibilistic Aggregations for Optimal Valuation of Credit Risks of Investment Projects, Euro|Informs 26th European Conference on Operational Research, Rome 1-4 July, 2013, Abstract Book, 271.
- 20. Gia Sirbiladze, Otar Badagadze and Khatia Sirbiladze, Possibilistic OWA type Aggregation Operator in the Decision-Making Problem regarding the Country Fiscal Policy, Euro|Informs 26th European Conference on Operational Research, Rome, Italy, 1-4 July, 2013, Abstract Book, 404.
- 21. Gia Sirbiladze and Gvantsa Tsulaia, OWA type Possibilistic Aggregations in a Decision Making Regarding Selection of Investments. Proceedings of the 2014 International Conference on Systems, Control, Signal Processing and Informatics II (SCSI '14), Prague, April 2-4, 79-81, 2014,
- 22. Gia Sirbiladze, Bezhan Ghvaberidzeand Bidzina Matsaberidze, Fuzzy Vehicle Routing Problem for Extreme Environment. XII International Conference on Fuzzy Systems and Neural Computing. International Science Index Vol: 8 No: 10 Part XII, 940-945, 2014.
- 23. Gia Sirbiladze, Method of Monte-Carlo for Generation of Possibility Levels of the Transport Movement on the Routes in Fuzzy Vehicle Routing Problem. Recent Advances in Systems. Proceedings of the 19th International Conference on Systems (part of CSCC '15), Zakinthos, Greece, 103-110, 2015.
- 24. Gia Sirbiladze, Bezhan Ghvaberidze, Bidzina Matsaberidze and Zurab Modebadze, New Two-Stage Approach for Bi-criteria Vehicle Routing Problem in Extreme Environment. Recent Advances in Systems. Proceedings of the 19th International Conference on Systems (part of CSCC '15), Zakinthos, Greece, 111-118, 2015.

- 25. Gia Sirbiladze, Irina Khutsishvili and Bezhan Ghvaberidze, TOPSIS based Hesitant Fuzzy MADM for Optimal Investment Decisions. Recent Advances in Systems. Proceedings of the 19th International Conference on Systems (part of CSCC '15), Zakinthos, Greece,119-124, 2015.
- 26. Gia Sirbiladze and Otar Badagadze, Possibilistic OWA-type Aggregations in the Business Startup Decision Making. Recent Advances in Systems. Proceedings of the 19th International Conference on Systems (part of CSCC '15), Zakinthos, Greece, 125-128, 2015.
- 27. Gia Sirbiladze, Irina Khutsishvili and Gvantsa Tsulaia, Hesitant Fuzzy MADM Approach in Optimal Selection of Investment Projects, *EPiC Series in Computer Science* International conference GCAI 2015. Global Conference on Artificial Intelligence, Tbilisi, (2015) 151-162.
- 28. Gia Sirbiladze, Bi-criteria Fuzzy Vehicle Routing Problem for Extreme Conditions on the Roads, 29th Conference of the Europian Chapter on Combinatorial Optimization, Budapest, Hungary, May, 26-28, 2016.
- 29. Gia Sirbiladze, Fuzzy Approach for Facilities Optimal Location in Extreme Environment. 19th International Conference on Operations Research and Fuzziology, Amsterdam, Nederland, May, 14-15, 2017.
- 30. Gia Sirbiladze, Bezhan Ghvaberidze and Bidzina matsaberidze, "Bi-Criteria Vehicle Routing Problem for Possibility Environment. 19th International Conference on Operations Research and Fuzziology, Amsterdam, Nederland, May, 14-15, 2017.
- 31. Gia Sirbiladze and Anna Sikharulidze, Probability Fuzzy Aggregation Operators in Vehicle Routing Problem. 19th International Conference on Operations Research and Fuzziology, Amsterdam, Nederland, May, 14-15, 2017.
- 32. Gia Sirbiladze, Bidzina Matsaberidze and Bezhan Ghvaberidze, Fuzzy Multi-Objective Approach for Emergency Location Transportation Problem. 19th International Conference on Operations Research and Fuzziology. Amsterdam, Nederland, May, 14-15, 2017.
- 33. Gia Sirbiladze, Roberto Santana, Bezhan Ghvaberidze and Bidzina Matsaberidze, A comparison of probabilistic-based optimization approaches for vehicle routing problems. IEEE Congress on Evolutionary Computation 2017. Donostia San-Sebastian, Spain, June 5-8, 2017.
- 34. Gia Sirbiladze, Fuzzy Approach in the Problem of Multi-Objective Emergency Service Location/Transportation for Disaster Region, plenary speech, 2018 International Conference on Neural Networks Fuzzy Systems (NN-FS 2018)), Prague, Czech Republic,19-21 May, 2018.
- 35. Gia Sirbiladze, Bezhan Ghvaberidze, Bidzina Matsaberidze, New fuzzy Approach to Location/Transportation Planning under Extreme and Uncertainty Environment, 2018 International Conference on Neural Networks Fuzzy Systems (NN-FS 2018)), Prague, Czech Republic, 19-21 May, 2018.
- 36. Gia Sirbiladze, Bezhan Ghvaberidze, Bidzina Matsaberidze, Fuzzy Choquet Averaging Aggregations in Facility Location Problem, 2018 International Conference on Neural Networks Fuzzy Systems (NN-FS 2018)), Prague, Czech Republic, 19-21 May, 2018.
- 37. Gia Sirbiladze, (Key note) New Fuzzy Technologies of Weakly Structured Processes' Modeling and Simulation, MACSPro'2019 Modeling and Analysis of Complex Systems and Processes, Vienna, Austria, March 21 -23, 2019, MACSPro, 2019.
- 38. Gia Sirbiladze, Irina Khutsishvili, Bezhan Ghvaberidze, Fuzzy TOPSIS based Facility Location Selection Problem, MACSPro'2019 Modeling and Analysis of Complex Systems and Processes, Vienna, Austria, March 21 -23, 2019, MACSPro, 2019.
- 39. Gia Sirbiladze, Bidzina Midodashvili, Bidzina Matsaberidze, Fuzzy multi-criteria emergency service centers selection problem in extreme environment, MACSPro'2019 Modeling and Analysis of Complex Systems and Processes, Vienna, Austria, March 21-23, 2019, MACSPro 2019.

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