C U R R I C U L U M   V I T A E

CONTACT

Associate Professor PhD **Cristinca FULGA**	Department of Applied Mathematics The Bucharest Academy of Economic Studies Piaţa Romană Nr. 6 010374, Bucharest Tel: (+40)021 319 19 00/266 Mobile: 0744 99 40 66 E-mail: fulga@csie.ase.ro Web page: www.fulga.ase.ro

EDUCATION

PhD Mathematics 2005	Faculty of Mathematics and Computer Science University of Bucharest
Bachelor of Mathematics 1983	Faculty of Mathematics and Computer Science University of Bucharest

AWARDS

2007	Diploma of Excellency for scientific research, 2007, Academy of Economic Studies, Bucharest

PRESENT POSITION

Associate Professor PhD	Department of Applied Mathematics The Bucharest Academy of Economic Studies

TEACHING

1993-present

<u>2011-2012</u>:
- Operations Research, Master level
- Decision Processes in Business Management, III
- Mathematics for economists, I

<u>Previously taught</u>:
- Probability theory and statistics
- Modeling and managing risks
- Financial mathematics

SCIENTIFIC TASKS

Reviewer for scientific journals	• Optimization - A Journal of Mathematical Programming and Operations Research, Taylor and Francis, • Central European Journal of Operations Research, Springer, • Numerical Functional Analysis and Optimization, Taylor and Francis, • Computers & Mathematics with Applications, Elsevier
Expert evaluator	• Expert evaluator - National Council for Research and Development (Consiliul Naţional al Cercetării Ştiinţifice C.N.C.S.)
Membru in Comisie de specialitate	• Membru in Comisia de specialitate a Panelului 4 din structura Consiliului Naţional de Atestare a Titlurilor şi Diplomelor şi Certificatelor Universitare

MEMBERSHIP IN SCIENTIFIC ASSOCIATIONS

2005 - present	EURO Association of European Operational Research Society
2005 - present	EUROPT The Continuous Optimization Working Group of EURO
2008 - present	IAENG International Association of Engineers
2008 - present	IACSIT The International Association of Computer Science and Information Technology
2007 - present	WGGC Working Group on Generalized Convexity
2006 – present	SPSR Societatea de Probabilităţi şi Statistică din România
2011 – present	CCMAFA Centrul de Cercetări Matematice Avansate Fundamentale şi Aplicative
2009 – 2010	MPS Mathematical Programming Society

RESEARCH INTERESTS

- Risk measures theory
- Risk optimization
- Stochastic programming
- Multi-objective programming
- Generalized convexity
- Applications of optimization techniques in finance and engineering sciences

RESEARCH GRANTS

PRINCIPAL INVESTIGATOR

Modelarea multicriterială a procesului decizional în condiţii de incertitudine cu aplicaţii în managementul portofoliilor,
· Grant No 844, code 1778 / 2008, PN II, IDEI
· Perioada de derulare: 2009, 2010, 2011
· Proiect obţinut prin competiţie şi finanţat,
· Încheiat de Academia de Studii Economice Bucureşti cu Ministerul Educaţiei şi Cercetării prin Consiliul Naţional al Cercetării Ştiinţifice (C.N.C.S.),
· Valoarea proiectului: 878 000 lei.

MEMBER IN THE RESEARCH TEAM

Sistem modern de indicatori, modele şi politici de măsurare şi susţinere a formării iniţiale şi continue a resurselor umane din perspectiva calităţii educaţiei şi a stimulării potenţialului creativ,
· Grant No 91-005/18.09.2007,
· Perioada de derulare: 2007- 2010,
· Încheiat de Academia de Studii Economice Bucureşti cu Ministerul Educaţiei şi Cercetării prin Centrul Naţional de Management Programe (C.N.M.P.),
· Proiect obţinut prin competiţie şi finanţat,
· Director de proiect: Prof. Dr. Ion Gh. ROŞCA,
· Valoarea proiectului: 1.851.200 lei.

MEMBER IN THE RESEARCH TEAM

Corelaţii între caracteristicile socio - economice ale regiunilor de dezvoltare şi nivelul economiei informale: estimări, analize şi scenarii,
· Grant nr. 91-054 / 18.09.2007,
· Perioada de derulare: 2007- 2010,
· Încheiat de Academia de Studii Economice Bucureşti cu Ministerul Educaţiei şi Cercetării prin Centrul Naţional de Management Programe (C.N.M.P.),
· Proiect obţinut prin competiţie şi finanţat,
· Director de proiect: Prof. Dr. Tudorel ANDREI,
· Valoarea proiectului: 1.285.000 lei.

MEMBER IN THE RESEARCH TEAM

Impactul investiţiilor străine asupra competitivităţii şi creşterii economice, în perioada de afirmare a României ca ţară membră U.E., utilizând tehnici inteligente,
· Perioada de derulare: 2007- 2008,
· Încheiat de Academia de Studii Economice Bucureşti cu

Ministerul Educaţiei şi Consiliul Naţional al Cercetării Ştiinţifice din Învăţământul Superior (C.N.C.S.I.S.),
· Proiect obţinut prin competiţie şi finanţat,
· Director de proiect: Prof. Dr. Stelian Stancu,
· Valoarea proiectului 100.000 lei.

MEMBER IN THE RESEARCH TEAM

Creşterea securităţii în alimentarea cu energie utilizând modele managerial-informatice (E-ENERGY),
· Grant nr. 42-68/18.09.2007,
· Perioada de derulare: 2007- 2010,
· Încheiat de de Camera de Comerţ şi Industrie a Municipiului Bucureşti şi Partener Academia de Studii Economice Bucureşti cu Ministerul Educaţiei şi Cercetării prin Centrul Naţional de Management Programe (C.N.M.P.),
· Proiect obţinut prin competiţie şi finanţat,
· Responsabil proiect A.S.E.: Prof. Dr. Stelian STANCU,
· Valoarea proiectului: 500.000 lei.

MEMBER IN THE RESEARCH TEAM

Circulaţia internaţională a forţei de muncă din România la nivelul Uniunii Europene. Impactul integrării României asupra fluxului de forţă de muncă România-U.E.,
· Grant nr. 91-045/18.09.2007,
· Perioada de derulare: 2007- 2010,
· Încheiat de Academia de Studii Economice Bucureşti cu Ministerul Educaţiei şi Cercetării prin Centrul Naţional de Management Programe (C.N.M.P.),
· Proiect obţinut prin competiţie şi finanţat,
· Director de proiect: Prof. Dr. Dumitru MARIN,
· Valoarea proiectului: 1.285.000 lei.

L I S T   O F   P U B L I C A T I O N S

BOOKS

1. Fulga, C., Dedu, S., Popescu, C., *Risk Management. Applications in Portfolio Management (in Romanian)*, Ed.ASE, Bucureşti, ISBN 978-606-505-473-8, 2011.
2. Fulga, C., *Probability Theory with Applications in Portfolio Management (in Romanian)*, Editura ASE, Bucureşti, ISBN 978-606-505-335-9, 2010.
3. Fulga, C., *Mathematical Models for Norm Minimization (in Romanian)*, Editura Universităţii din Bucureşti, ISBN 978-973-737-488-2, 2008.
4. Fulga, C., *Probability theory (in Romanian)*, Editura ASE, Bucureşti, ISBN 978-606-505-117-1, 2008.
5. Vasiliu, D. P., Fulga, C., Note de Curs, Editura ELMA-H, 1994.

BOOK CHAPTERS

6. Fulga, C., *Dynamic Model for Portfolio Optimization*, Book Series: Lecture Notes in Engineering and Computer Science, IMECS 2009: International MultiConference of Engineering and Computer Sciences, Vol. 2, pp. 2081-2086, Eds.: S. I. Ao, O. Castillo, C. Douglas, D. Dagan Feng, J.-A Lee, Publ: Newswood Ltd., I.A.Eng.
7. Fulga, C., *Decentralized Cooperative Optimization for Multi-Criteria Decision Making*, Book Series: Lecture Notes in Control and Information Sciences, Advances in Cooperative Control and Optimization, pages 65-80, Springer Berlin/ Heidelberg, Vol 369, 2007.

REFEREED JOURNAL PUBLICATIONS

8. Fulga, C., *Optimal portfolio selection with disutility based risk measure,* 2010, under review.
9. Popescu, C., Fulga, C., *Possibilistic Optimization with Application to Portfolio Selection,* Proceedings of Romanian Academy - Series A: Mathematics, Physics, Technical Science, Information Science, Vol. 12, Issue: 2, Pages: 88-94, 2011.
10. Dedu, S., Fulga, C., *Value-at-Risk estimation comparative approach with applications to optimization problems,* Economic Computation and Economic Cybernetics Studies and Research, Volume: 45, Issue: 1, Pages: 127-142, 2011.
11. Fulga, C., Popescu, C., *Possibilistic portfolio optimization with* $LR_{(1/2)}$*-piecewise linear fuzzy parameters,* 2010, under review.
12. Popescu, C., Fulga, C., *Chance constrained programming with polygonal type fuzzy parameters with application in portfolio management,* 2010, under review.
13. Fulga, C., Dedu, S., *Risk modeling with new quantile based risk measures applied to portfolio optimization,* 2010, under review.
14. Dedu, S., Fulga, C., *Mean-risk portfolio optimization with prior stock selection based on hierarchical clustering technique,* 2010, under review.

15. Fulga, C., Preda, V., *Nonlinear Programming with E-Preinvex and Local E-Preinvex Functions*, European Journal of Operational Research, Vol. 192 (3), 2009, pp. 737-743.

16. Fulga, C., Dedu, S., Şerban, F., *Portfolio Optimization with Prior Stock Selection*, Economic Computation and Economic Cybernetics Studies and Research, Vol 43 (4), pp. 157-172, 2009.

17. Fulga, C., Dedu, S., *Modeling Risk Using VaR and CVaR Risk Measures with Applications in Portfolio Management*, Studii şi Cercetări de Calcul Economic şi Cibernetică Economică, Vol. 1-2, 2009, pp. 99-112.

18. Fulga, C., Şerban, F., *Multi-item Inventory Model with Constant Rate of Deterioration and Safety Stock*, Economic Computation and Economic Cybernetics Studies and Research, Vol. 42, Nr. 3-4, 2008, pp. 157-170.

19. Fulga, C., Preda, V., *On Optimality Conditions for Multiobjective Optimization Problems în Topological Vector Space*, Journal of Mathematical Analysis and Applications, Vol. 334(1), 2007, pp. 123-131.

20. Fulga, C., Pop, B., *Portfolio Selection with Transaction Costs,* Bulletin Mathematique de la Societe des Sciences Mathematiques de Roumanie, Tome 50(98), no. 4, 2007, pp. 317- 330.

21. Fulga, C., *The Partner Selection Problem in a Virtual Enterprise*, Economic Computation and Econ Cybernetics Studies and Research, 41(3-4), 2007, 193-202.

22. Fulga, C., *Local Convexification of the Lagrangian Function for Nonlinear Nonconvex Optimization*, Bulletin Mathematique de la Societe des Sciences Mathematiques de Roumanie, Tome 49 (97), no. 3, 2006, pp. 239-246.

23. Fulga, C., *A Sequential Quadratic Programming Technique with Two-Parameter Penalty Function*, Bulletin Mathematique de la Societe des Sciences Mathematiques de Roumanie, Tome 49(97), no. 4, pp. 335- 345, 2006.

24. Fulga, C., *Saddle Points Generation in Nonlinear Programming Problems*, Economic Computation and Economic Cybernetics Studies and Research, Vol. 40, Nr. 3-4, 2006, pp. 169-180.

25. Fulga, C., *An Extension of the Minimum Norm Problem*, Mathematical Reports, Vol. 7(57), No. 1, 2005, pp. 45-51.

26. Preda, V., Fulga, C., V., *Duality for Minimum Matrix Norm Problems*, Proceedings of the Romanian Academy, Vol. 6, No. 1, 2005, pp. 25-31.

27. Fulga, C., *On Minimum Norm Problems*, Analele Universităţii Bucureşti, Seria Matematică, Anul LII, Nr. 2, 2003, pp. 175-180.

28. Fulga, C., *Studiul Comparativ între Analiza Pareto şi Abordarea prin Intermediul Conceptului de Spaţiu de Echilibru în Optimizarea Multicriterială*, Studii şi Cerc de Calcul Econ şi Cibernetică Econ, Anul XXXIV, 1, 2000, pp. 69-80.

29. Fulga, C., *Funcţii de Penalitate Exactă*, Stud Cerc Calc Econ Cib Econ, Anul XXXIII, Vol. 4, 1999, pp. 61-71.

REFEREED PROCEEDINGS PAPERS

30. Fulga, C., *Mean-Risk Portfolio Optimization with AHP-based Prior Stock Selection*, Proceedings of the International Symposium on the Analitic Hierarchy Process ISAHP 2011, pp. 60-62, Editors: F. De Felice, E. Esposito, A. Petrillo, T.L. Saaty, Sorrento, Italy, June 15-18, 2011, ISSN: 1556-8296, ISBN: 978-88-906147-0-5.

31. Fulga, C., Dedu, S., *A New Approach in Multi-Objective Portfolio Optimization using Value-at-Risk based Risk Measure,* Proceedings of the 2nd IEEE International Conference on Information and Financial Engineering IEEE ICIFE 2010, pp. 151-156, IEEE CN: 978-1-4244-6927-7.

32. Fulga, C., *Dynamic Model for Portfolio Optimization*, The International Multi-Conference of Engineering and Computer Sciences 2009 - International Conference on Operations Research ICOR 2009, Lecture Notes în Engineering and Computer Science, Editors: S. I. Ao, O. Castillo, C. Douglas, D. Dagan Feng, J.-A Lee, Publ.: Newswood Ltd. I.A.Eng., 2009, Vol. 2, pp. 2081-2086.

33. Fulga, C., *Dynamic Portfolio Optimization for Utility-Based Models*, Proceedings of The 2009 International Conference on Information and Financial Engineering ICIFE 2009, April 17-20, 2009, Singapore, pp. 117-121, ISBN-13: 978-0-7695-3606-4.

34. Fulga, C., *Multistage Portfolio Optimization*, Proceedings of the XIII International Conference on Applied Stochastic Models and Data Analysis ASMDA 2009, Vilnius, Lituania, pp. 497-502, Editors: Leonidas Sakalauskas, Christos Skiadas, Edmundas K. Zavadskas, Vilnius Gediminas Technical University Press, ISBN: 978-9955-28-463-5.

35. Fulga, C., *Stochastic Models for Portfolio Management with Minimum Transaction Lots,* Proceedings of the International Conference on Economic Cybernetic Analysis: Global Crisis Effects on Developing Economies, Vol. 1, pp. 631-637, Editura ASE, 2009, ISBN: 978-606-505-219-2.

36. Fulga, C., Dedu, S., *A Comparative Approach in Risk Management using VaR and CVaR Risk Measures,* Proceedings of the International Conference on Economic Cybernetic Analysis: Global Crisis Effects on Developing Economies, Vol. 2, pp. 715-723, Editura ASE, 2009, ISBN: 978-606-505-219-2.

37. Fulga, C., *Decomposition Technique for Multiple Criteria Problems*, Proceedings of the 9th Asia Pacific Industrial Engineering & Management Systems Conference APIEMS 2008, pp. 1101-1107.

38. Fulga, C., Pop, B., *Single Period Portfolio Optimization with Fuzzy Transaction Costs*, Proceedings of EURO Conference Continuous Optimization and Knowledge-Based Technologies EurOPT 2008, May 20-23, 2008, Editors: L. Sakalauskas, G.W. Weber, E.K. Zavadskas, pp. 125-131, Publ. House Vilnius Technika, ISBN: 978-9955-28-283-9.

39. Fulga, C., Pop, B., *Single-Period Portfolio Selection with Transaction Costs*, The International Conference Trends and Challenges în Applied Mathematics

ICTCAM 2007, Bucureşti, 2007, Proceedings of the International Conference Trends and Challenges în Applied Mathematics ICTCAM 2007, Eds: G. Paltineanu, E. Popescu, I. Toma, Ed. Matrix Rom, Bucureşti, 2007, pp. 189-193, ISBN: 978-973-755-283-9.

40. Fulga, C., *Multiobjective Optimization Involving Generalized Convexity*, Proceedings of the XII International Conference on Economic Cybernetics, Sustainable Development Models for European Union Extension Process, Vol. 2, Bucharest, 2006.

41. Fulga, C., *Penalty Approach for Optimization in the Energy Sector*, The 19th EURO Conference on Operational Research Models and Methods în the Energy Sector ORMMES'06, Coimbra, Portugal, 2006, Proceedings of the 19th EURO Conference on Operational Research Models and Methods în the Energy Sector ORMMES'06, Eds: C. Henggeler Antunes, A. Gomes, Coimbra, Portugal, 2006.

42. Fulga, C., *Multiobjective Differentiable Programming in Topological Vector Space*, Le 8eme Colloque Franco-Roumain de Mathematiques Appliquees, Chambery, France, 2006.

43. Fulga, C., *On Exact Penalty Function for Interval Constraints Nonlinear Programming Problem*, Proceedings of The 7th Balkan Conference on Operational Research, Eds: V. Preda, S. Sburlan, A. Ştefănescu, A. Bătătorescu, Editura EUROGEMA, Bucureşti, 2007, pp. 109-115.

44. Fulga, C., *Nonscalarized Multiobjective Optimization*, Le 5eme Colloque Franco-Roumain de Mathematiques Appliquees, Constanţa, 2000.

45. Fulga, C., *Local Convexification for Nonlinear Programming*, A 9-a Conferinţă a Societăţii de Probabilităţi şi Statistică din România, Bucureşti, 2006.

46. Fulga, C., *Preda, V., Generalized Optimality Conditions for Multiobjective Programming Problems în Topological Vector Space,* A 9-a Conferinţă a Societăţii de Probabilităţi şi Statistică din România, Bucureşti, 2006.

47. Fulga, C., *Saddle Points and Local Convexification for Nonlinear Programming Problems*, The 10th National Conference of the Society of Mathematical Sciences of Romania, Bucureşti, 2006, , Proceedings of the 10th National Conference of the Society of Mathematical Sciences of Romania, Bucureşti.

48. Fulga, C., *Risk Transfer and Information Assymmetry*, Proceedings of R.E.C., Universitatea Dunărea de Jos, Galaţi, 2000.

49. Fulga, C., *Penalty Concepts by means of the Separation Functions in the Image Space*, Analele Univ. Dunărea de Jos, Galaţi, Seria Matematică, Vol. I, Fasc. II, Suplim. Tom XVI, pp.115-121, Eds: T. Buhaescu, J. Crînganu, M. Baroni.

CONFERENCE CONTRIBUTED TALKS (2007-2011)

50. Fulga, C., *Single Period Mean-risk Portfolio Rebalancing Model with a Hybrid Approach of the Stock Selection Phase*, The 19th Triennial Conference of the International Federation of Operational Research Societies IFORS2011, Melbourne, Australia, July 10-15, 2011.

51. Fulga, C., *Multi-Period Portfolio Optimization,* The 14th Conference of the Applied Stochastic Models and Data Analysis International Society ASMDA 2011, Rome, Italy, June 7-10, 2011.

52. Fulga, C., *Risk-Return Portfolio Optimization,* The International Conference on Operations Research OR 2011, Zurich, Switzerland, August 30 - September 2, 2011.

53. Fulga, C., *Multi-Agent Systems Modeling and Management Based on a Decentralized/Cooperative Optimization Technique,* The 10th IEEE/WIC/ACM International Conference on Intelligent Agent Technology, Lyon, France, August 22-27, 2011.

54. Fulga, C., *Optimal Portfolio Selection With Disutility Based Risk Measure*, The 25th IFIP TC 7 on System Modeling and Optimization Conference, Berlin, Germany, September 12-16, 2011.

55. Fulga, C., *Single-Period Portfolio Optimization in a Reward-Risk Framework,* The International Conference on Operations Research *Mastering Complexity* OR 2010, Munchen, Germany, September 1-3, 2010.

56. Fulga, C., *Risk-Return Portfolio Optimization with Disutility Function,* The 24th European Conference on Operational Research EURO XXIV, Lisbon, Portugal, July 11-14, 2010.

57. Fulga, C., *Utility-based Mean-Risk Portfolio Optimization,* The 15th International Congress on Computational and Applied Mathematics ICCAM 2010, Leuven, Belgium, July 5-9, 2010.

58. Fulga, F., Fulga, C., Nicolau, D.V., *Multiobjective Genetic Algorithm for Flexible Filament Model Parameters Extraction*, The 4th European Congress on Computational Mechanics ECCM IV, Paris, France, May 16-21, 2010.

59. Fulga, C., *Approximate Dynamic Programming Approach to Portfolio Optimal Selection for an Utility-based Model,* The 20th International Symposium of Mathematical Programming, Chicago, USA, August 23-28, 2009.

60. Fulga, C., *Approximate Dynamic Programming Approach to Portfolio Optimization*, The 5th European Congress of Mathematics 5ECM, Amsterdam, Netherlands, July 2008.

61. Fulga, F., Fulga, C., Nicolau, D. V., *Multiobjective Optimization Approach for Model Parameter Extraction in Gliding Motility Assays,* The 5th European Congress on Computational Methods în Applied Sciences and Engineering ECCOMAS 2008, Venice, Italy, June 30 – July 5, 2008.

62. Fulga, C., *Dynamic Model for Portfolio Optimization*, The 22nd European Conference on Operational Research EURO XXII, Prague, Czech Republic, July 8-11, 2007.

63. Fulga, C., Preda, V., *On Constraint Qualifications in Multiobjective Optimization Problems,* Joint EUROPT-OMS 2007, Prague, Czech Republic, July 4-7, 2007.

64. Fulga, C., *Optimal Portfolio Selection for Utility Based Models*, The 11th International Conference on Stochastic Programming SPXI, Vienna, Austria, August 2007.

65. Fulga, C., Antunes, C. H., *Decentralized Method for Multiobjective Optimization*, The International Conference OPTIMIZATION 2007, Porto, Portugal, July 22-25, 2007.

66. Fulga, C., *Penalty-based Decentralized Methods for Multiobjective Optimization*, The 6th Congress of Romanian Mathematicians, Bucureşti, 2007.