Curriculum Vitae
of Patrizia Beraldi

PERSONAL DETAILS

Name:	Patrizia Beraldi
Birth:	March 7, 1969
Nationality:	Italian
Marital status:	married, 3 children
Languages:	Italian, English
Working Address:	Department of Mechanical, Energy and Management Engineering (DIMEG), University of Calabria, Via P. Bucci, Rende (CS), Italy
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Brief Description

Patrizia Beraldi is Associate professor of Operations Research at Unical since 2003. In 2013, she got the national qualification as Full Professor in Operations Research. She obtained the PhD in System Engineering and Computer Science at Unical in 2000. She was research assistant at Unical in Operations Research from 2001 to 2003. She was visiting research fellow at RUTCOR – Rutgers Center of Operations Research, Rutgers University, USA and at the Faculty of Commerce and Business Administration of the Vancouver University, Canada. She has been the head of the division of "Quantitative Finance" at the "Supercomputer Centre for the Computational Engineering", University of Calabria, during the period 2006-2009. She is the author of more than 60 publications on prestigious journal in the Operations Research field. She has been member of the scientific committee of different International Conferences and organizer of several invited sessions at AIRO, EURO, ECSO and ICSP Conferences mainly in stream of Stochastic Optimization. She is referee for numerous international scientific journals and she regularly supervises numerous master and PhD students.

WORKING CAREER

- 2013 Italian qualification as Full Professor of Operations Research
- 2003–Today Associate Professor of Operations Research at DIMEG -University of Calabria
- 2001–2003 Assistant Professor of Operations Research at DEIS -University of Calabria
- 1999- 2001 Research Fellow in Operations Research at DEIS -University of Calabria
- 1996-1999 Ph.D. Fellow at University of Calabria
- 1998-1999 Ph.D Fellow at the Rutcor Center of Operations Research, Rutgers University, New Brunswick, N.J. USA
- 1995-1996 Research Fellow C.N.R. within the Project "Trasporti 2"

EDUCATION

- 2000 PhD in system Engineering and Computer Science- University of Calabria
- 1995 Degree in Management Engineering (cum laude), University of Calabria

AWARDS

Best paper award Winner of the best paper award of the 2015 IMA Journal of Management Mathematics

RESEARCH ACTIVITY

The research activity is mainly focused on the :

- The design of solution methods for network flow problems implemented on traditional and high performance computing platforms
- The study of the theoretical properties and the definition of solution methods for stochastic problems under probabilistic constraints for both the single and the disjoint cases
- The design and implementation of solution methods for stochastic programming problems with recourse
- The application of the stochastic programming framework in different fields, such as, but not limited to, energy, routing, finance, scheduling, health care, performance evaluation via DEA.

PUBLICATIONS

Articles in Refereed International Journals

1. P. Beraldi, F. Guerriero, R. Musmanno (1997), Efficient Parallel Algorithms for the Minimum Cost Flow Problem, *Journal of Optimization Theory and Applications*, *95 (3), 501-530.*
2. P. Beraldi, F. Guerriero, R. Musmanno (197), A Parallel Asynchronous Implementation of the ε-relaxation Method for the Linear Minimum Cost Flow Problem, *Parallel Computing*, *23, 1021-1044.*
3. G. Aloisio, P. Beraldi, M. Cafaro, F. Guerriero, R. Musmanno (1999), An Algorithm for Solving the Distributed Termination Detection Problem, *Parallel Algorithms and Applications*, *14, 149-164.*
4. P. Beraldi, R. Musmanno, C. Triki (2000), Solving Stochastic Linear Programs with Restricted Recourse using Interior Point Methods, *Computational Optimization and Applications*, *15(3), 215-234.*
5. P. Beraldi, L. Grandinetti, R. Musmanno, C. Triki (2000), Parallel Algorithms to Solve Two-Stage Stochastic Linear Programs with Robustness Constraints, *Parallel Computing*, *26 (13-14), 1889-1908.*
6. P. Beraldi, F. Guerriero, R. Musmanno(2001), Parallel Algorithms for Solving the Convex Minimum Cost Flow Problem, *Computational Optimization and Applications18 (2), 175-190.*
7. P. Beraldi, A. Ruszczynski (2002), The Probabilistic Set Covering Problem, *Operations Research*, *50(6), 956-967.*
8. P. Beraldi, A. Ruszczynski (2002), A Branch and Bound Method for Integer Problems under Probabilistic Constraints, *Optimization Methods and Software, 17 (3), 359- 382.*
9. P. Beraldi, R. Musmanno, C. Triki, S.A. Zenios (2003), Limited Recourse in Two-Stage Stochastic Linear Programs, *Journal of Information & Optimization Sciences*, *24 (3), 445-465.*

10. P. Beraldi, A. Attanasio, F. Guerriero (2003), A Practical Performance Index for Comparing Optimization Software, *Computing 2 (1).*
11. P. Beraldi, M.E. Bruni, D. Conforti (2004), Designing Robust Medical Service via Stochastic Programming, *European Journal of Operational Research, 158 (1), 183-193.*
12. P. Beraldi, D. Conforti, C. Triki, A. Violi (2004), Constrained Auction Clearing in the Italian Electricity Market, *4OR, 2, 35-51*.
13. P. Beraldi, G. Gross, C. Triki (2005), Optimal Capacity Allocation in Multi-Auction Electricity Markets under Uncertainty, *Computer and Operations Research, 32(2), 2001-217.*
14. P. Beraldi, A. Ruszczynski (2005), Beam Search Heuristic Strategies to Solve Stochastic Integer Problems under Probabilistic Constraints, *European Journal of Operational Research, 167, 35-4.*
15. P. Beraldi, G. Ghiani, G. Laporte, R. Musmanno (2005), Efficient Neighbourhood Search for the Probabilistic Pickup and Delivery Travelling Salesman Problem, *Networks, 45(4), 195-198.*
16. P. Beraldi, G. Ghiani, A. Greco, E. Guerriero (2006), A Fix and Relax Heuristic for a Stochastic Lot-Sizing Problem, *Computational Optimization and Applications, 33, 303-318.*
17. P. Beraldi, G. Ghiani, A, Grieco, E. Guerriero (2006), Scenario-Based Planning for Lot-Sizing and Scheduling with Uncertain Processing Times, *International Journal of Production Economics, 101 (1), 140-149.*
18. P. Beraldi, D. Conforti, A. Violi (2009), A Two-Stage Stochastic Programming Model for Electric Energy Producers, *Computers and Operations Research, 35(10), 3360-3370.*
19. P. Beraldi, G. Ghiani, A. Greco, E. Guerriero (2008), Rolling-horizon and fix-and-relax heuristics for the parallel machine lot-sizing and scheduling problem with sequence-dependent set-up costs, *Computers and Operations Research, 35 (11), 3644-365.*
20. P. Beraldi, F. Guerriero (2008), The alpha-shortest path problem, *Algorithmic Operations Research*, *3, 59–66*.
21. P. Beraldi, M.E. Bruni (2009), A Probabilistic Model Applied to Emergency Service Vehicle Location, *European Journal of Operational Research*, *196(1), 323-331.*
22. P. Beraldi, M.E. Bruni, D. Conforti (2009), The Stochastic Trim Loss Problem, *European Journal of Operational Research***,** *197, 42 – 49.*
23. P. Beraldi, M.E. Bruni, D. Conforti (2009), A Solution Approach for Two-Stage Stochastic Nonlinear Mixed Integer Programs, *Algorithmic Operations Research, 4 (1) 76–85.*
24. P. Beraldi, M.E. Bruni, D. Conforti (2009), Probabilistically Constrained Models for Efficiency and Dominance in DEA, *International Journal of Production Economics*, 117(1), 219–228.
25. P. Beraldi. D. Conforti, A. Violi (2009), SICOpt: a solution approach for Nonlinear Integer Stochastic Programming Problems, *Journal of Optimization Theory and Applications***,** *143(1), 17-36.*
26. Beraldi, M.E. Bruni, F. Guerriero (2010), Network Reliability Design Via Joint Probabilistic Constraints, *IMA Journal on Management Mathematics***,** *21(2), 213-226*
27. P. Beraldi, M.E. Bruni (2010), An Exact Approach for Solving Integer Problems under Probabilistic Constraints with Random Technology Matrix, *Annals of Operations Research***,** *177, 127-137.*
28. P. Beraldi, F. De Simone, A. Violi (2010), Generating Scenario Trees: A Parallel Integrated Simulation-Optimization Approach, *Journal of Computational and Applied Mathematics, 23(9), 2322-2331.*
29. P. Beraldi, G. Ghiani, R. Musmanno, F. Vocaturo (2010), An Efficient Local Search Heuristic for the Multiple Vehicles Pickup and Delivery Travelling Salesman Problem, *Asia-Pacific Journal of Operational Research, 27(3), 301-314..*
30. P. Beraldi, F. De Simone, A. Violi (2011), A Decision Support System for Portfolio Optimization, *Decision Support Systems, 51(3), 549-561.*

31. M.E. Bruni, P. Beraldi, F. Guerriero, E. Pinto (2011), A Stochastic Programming Approach for Resource Constrained Project Scheduling under Uncertainty, *Computer and Operations Research, 38(9), 1305-1318*.
32. P. Beraldi, N. Scordino, N. Sorrentino, A. Violi (2011), Short-term Electricity Procurement: a Rolling Horizon Stochastic Programming Approach, *Applied Mathematical Modelling, 35 (8), 3980–3990*.
33. M.E. Bruni, P. Beraldi, F. Guerriero, E. Pinto (2011), A Methodology for Dealing with uncertainty in Construction Projects, *Engineering Computations, 28, 1064-1078.*
34. P. Beraldi, M.E. Bruni, A. Violi (2012), Capital Rationing under Uncertainty and Risk, *Computational Optimization and Applications*, *51, 1375-1396.*
35. P. Beraldi, F. De Simone, A. Violi, G. Consigli, G. Iaquinta (2012), Scenario-based dynamic corporate bond portfolio management, *IMA Journal on Management Mathematics, 23, 341-364.*
36. P. Beraldi, M. Costabile, F. De Simone, I. Massabò, E. Russo, A. Violi (2013), A Multistage Stochastic Programming Approach for Capital Budgeting Problems under Uncertainty, *IMA Journal on Management Mathematics, 24, 89-110.*
37. M.E. Bruni, P. Beraldi, D. Laganà (2013), The express heuristic for probabilistically constrained integer problems, *Journal of Heuristics*, *19, 423-441.*
38. G. Iazzolino, M.E. Bruni, P. Beraldi (2013), Using DEA and financial ratings for credit risk evaluation: an empirical analysis, *Applied Economics Letter*, *20(14), 1310-1317.*
39. P.Beraldi, M.E. Bruni (2013), A Clustering Approach for Scenario Tree Reduction: An Application to a Stochastic Programming Optimization Problem, *TOP, 22(3), 1-16.*
40. M.E. Bruni, P. Beraldi, G. Iazzolino (2014), Lending decisions under uncertainty: a DEA approach, *International Journal of Production Research,* 52(3), 766-775.
41. S. Oprea, C. Triki, P. Beraldi, G. Crainic (2014), The Stochastic Bid Generation Problem in Combinatorial Transportation Auctions, *European Journal of Operational Research*, 236(2), 991-999.
42. P. Beraldi, ME Bruni. L. Grandinetti, I. Epicoco, A. Violi (2014), An Advanced System for Portfolio Optimization, *International Journal of Grid and Utility Computing*, *5(1), 21-32.*
43. ME. Bruni, F. Guerriero, P. Beraldi (2014), Designing Robust Routes for Demand-responsive Transport Systems, *Transportation Research part E: Logistics and Transportation Review, 70, 1-16.*
44. P. Beraldi, M.E. Bruni, D. Laganà, R. Musmanno (2015), The Mixed Capacitated General Routing Problem under Uncertainty, *European Journal of Operational Research, 240(2), 382-392.*
45. P. Arcuri, P. Beraldi, G. Florio, P. Fragiacomo (2015), Optimal Design pf a Small Size Trigeration Plant in Civil Users: A MINLP, *Energy, 80, 628-641.*
46. M.E. Bruni, P. Beraldi, D. Conforti (2015), A Stochastic Programming Approach for Operating Theatre Scheduling under Uncertainty, *IMA Journal on Management Mathematics, 26(1), 99-119.*
47. S. Khodaparasti, H. R. Maleki, M.E. Bruni, P. Beraldi, D. Conforti (2016), Balancing efficiency and equity in location-allocation models with an application to strategic EMS design, *Optimization Letters*, 10(5), 1056-1070.
48. M.E. Bruni, L. Di Puglia Pugliese, P. Beraldi, G. Guerriero (2016), An adjustable robust optimization model for the resource-constrained project scheduling problem with uncertain activity durations, Omega.
49. M.E. Bruni, P. Beraldi, D. Conforti (2017), Water distribution networks design under uncertainty, TOP, 25(1), 111-126.

50. P. Beraldi, M.E. Bruni, D. Manerba, R. Mansini (2017), A stochastic programming approach for the traveling purchaser problem, *IMA Journal on Management Mathematics, 28(1), 41-63.*

51. A. Tomasgard, A. Lisser, P. Beraldi, V. Moriggia (2017), Stochastich Programming: A theoretical field or relevant for managers, *IMA Journal on Management Mathematics, 28(1), 41-63.*

Articles in Refereed Proceedings of International Conferences

52. M.E. Bruni, P. Beraldi, D. Conforti (2006), Improving the Efficiency of Clinical Laboratory: a Mathematical Approach, *12th IFAC Symposium on Information Control Problems in Manufacturing,* A. Dolgui, G. Morel, C. Pereira (eds.), 3 Operational Research, 659-665.

53. Turchenko, P. Beraldi, F. De Simone, L. Grandinetti (2011), Short-term stock price prediction using MLP in moving simulation mode, *Proceedings of the 6th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications, IDAACS'2011,* 666-671.

54. P. Beraldi, M.E. Bruni (2012). Data Envelopment Analysis under Uncertainty and Risk, *World Academy of Science, Engineering and Technology, 66, 837-842.*

55. M.E. Bruni, P. Beraldi, D. Conforti (2014), A Stochastic Programming Approach for the Strategic Valve Locations Problem in a Water Distribution System, *Procedia-Social and Behavioural Sciences*, 108, 129-138.

56. M. Amelio, P. Beraldi, V. Ferraro, M. Scornaienchi, F. Rovense (2016), Optimization of Heliostat Field in a Thermal Solar Power Plant with an Unfired Closed Joule-Brayton Cycle, 101, 472-479.

57. P. Beraldi, A. Violi, G. Carrozzino. M.E. Bruni (2017), The optimal electric energy procurement problem under reliability constraints, Energy Procedia, in press.

58. P. Beraldi, A. Violi, G. Carrozzino. M.E. Bruni (2017), The Optimal Energy Procurement Problem: A Stochastic Programming Approach, Springer Proceedings in Mathematics and Statistics in press.

Book Chapters

59. P.Beraldi, F.Guerriero (1996), An Efficient Parallel Algorithm for the Linear Minimum Cost Flow Problem on the Cray T3D, in: Science and Supercomputing at CINECA, 1995 Report, Edited by G. Erbacci and M. Voli, CINECA Supercomputing Group, Bologna, Italy, 261-271.

60. P. Beraldi, L. Grandinetti, and F. Guerriero (1998), Solving Large-Scale Network Transportation Problems on a Cluster of Workstations in: E.H. D'Hollander, G.R. Joubert, F.J. Peters and U. Trottenberg, Parallel Computing: Fundamentals, Applications and New Directions, Elsevier Science.

61. . Beraldi, G. Consigli, F. De Simone, A. Violi (2011), Hedging credit and market risk in corporate portfolio management, *International Series in Operations Research and Management Science, 163, 73-98.*

62. ME Bruni, P. Beraldi, F. Guerriero (2015), The Stochastic Resource-Constrained Project Scheduling Problem, *Handbook on Project Management and Scheduling, Vol. 2, Springer International Publishing, 811-835.*

63. P. Beraldi, C. Triki, "Programmazione Stocastica", in: Modelli e metodi decisionali in condizioni di incertezza e rischio di: (a cura di) Gianpaolo Ghiani, Roberto Musmanno, Pages:103-134, McGraw-Hill Italia, 2009

EDITORIAL WORK

- Guest co-editorship: IMA Journal of Management Mathematics Special Issue January 2017
- Member of the editorial board of the Hindawi Journal (session Operations Research) 2013-16
- Reviewer for several top journal in operations research field: EJOR, OR, COR, COAP, Omega, AOR, DAM, …

RESEARCH PROJECTS

- Responsible of the research unit for the PRIN project "Ottimizzazione di sistemi dinamici stocastici con applicazioni alla finanza" at the University of Calabria (2008-2010)
- Member of the research unit at the University of Calabria of several international projects (BEING GRID, HPC- Finance, Euromed,..) and national projects (PON HealthSoaf, PON01_01286 eJRM, PON01_00990 "AUTOMOTIVE ENTERPRISE 2.0, PON DOMUS ENERGIA,…)

TEACHING ACTIVITY

From 2000, she is giving different courses within the area of Operations Research at the Faculty of Engineering of the University of Calabria. Among the others, there are the courses of "Optimization", "Operations Research", Probability Theory and Reliability", Financial Optimization", "Financial Engineering". She has also given a short course on "Introduction to Stochastic Programming" for PhD students at University of Calabria and different course in private masters.

ACADEMIC DUTIES AND SERVICES

- Member of Department Committee – Giunta di Dipartimento - (2012-)
- Member of the PhD Program in Operations Research (2002-2015) and Mathematics and Informatics (2015-)
- Member of the "Commissione Paritetica Docenti-studenti" (2015-)
- President of Comitato di Indirizzo for the Engineering Management Degree, University of Calabria
- Responsible A.V.A. for the Engineering Management Degree, University of Calabria
- Member of the Quality Committee for the Engineering Management Degree University of Calabria
- Member of the Committee for an assistant Professor Position, University of Rome La Sapienza
- Member of the national committee for the confirmation in position of associate professor in operations research (2004)
- Member of the several Committees for Research Fellow Positions
- Head of the Financial Engineering and Risk Management Laboratory at DIMEG
- Member of the Committee for both the Master and the Bachelor Management Engineering degree