

Curriculum Vitae of Francesca Maggioni

Personal Details

Name: Francesca Maggioni;

Birth: December 20, 1980;

Nationality: Italian;

Languages: Italian (mother tongue),
English (TOEIC certification);

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Brief Description

Francesca Maggioni is *Assistant Professor* in Operations Research (s.s.d. MAT/09) at the Department of Management, Economics and Quantitative Methods at University of Bergamo (ITALY). In September 2018 she has obtained the Italian scientific qualification as *Full Professor* in Operations Research and in October 2018 in Mathematical Methods for Economics and Finance. In March 2017 she has obtained the Italian scientific qualification as *Associate Professor* in Operations Research and in Mathematical Methods for Economics and Finance.

She has held research *visiting fellowships* at the Isaac Newton Institute for Mathematical Sciences in Cambridge, Lancaster University Management School, Molde University College in Norway, University of Newcastle, University of Maryland, University of Vienna and “Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise, la Logistique et le Transport” (CIRRELT) Montreal where she has delivered invited seminars.

She obtained a Ph.D. in Pure and Applied Mathematics from the University of Milano-Bicocca (2006) and Master degree in Mathematics at University Cattolica del Sacro Cuore of Brescia (2003).

Her *research interests* center on optimization of sequential decision problems under uncertainty using different methodologies like Stochastic Programming, Robust and Distributionally Robust Optimization. The applications considered are mainly in logistics, energy and biology areas. Former research interests are on geometric, topological and energetic aspects of knotted filaments. On these topics, she has published more than 40 research papers, which include 33 articles published in refereed Scopus/ISI international journals. The paper “On the groundstate energy spectrum of magnetic knots and links” has been selected by the editorial board of the

Journal of Physics A: Mathematical and Theoretical as one of the best research works of 2014, including a special mention in the JPA 2014 Highlights compilation.

She has been *organizer* of several invited sessions at AIRO, EURO, APMOD, CMS, ECSO and ICSP Conferences, the stream “Stochastic Models for Service Operations” at IFORS Conference in 2014 and the stream “Stochastic and Robust Optimization” at EURO Conference in 2018. She has been the co-chair of the Organizing Committee of the “International Winter School in Stochastic Programming with Applications to Energy, Logistics and Finance”, January 15-21 2017, Passo del Tonale (Italy).

In 2016 she has become elected member and secretary of the Managerial Board of the “European Working Group on Stochastic Optimization” (EWGSO) and treasurer of the Managerial Board of the “Committee on Stochastic Programming” (COSP). Since 2018 she is the *national Coordinator* with P. Beraldi of AIRO Thematic Section of Stochastic Programming.

She is *Associate Editor* of the Journal Computational Management Science (CMS), Guest Editor of the special issues “CMS 2016” in CMS and “Stochastic Optimization: Theory and Applications, in memory of Marida Bertocchi” in Annals of Operations Research. She is referee for numerous international scientific journals and in December 2017 received the “Outstanding Contribution in Reviewing Award” for the Journal “Computers and Operations Research”.

Since 2009 she is a member of the Research Council of the Department of Management, Economics and Quantitative Methods, University of Bergamo. She is the referent for the University of Bergamo of the “Sportello Matematico per l’Industria Italiana”. She regularly supervises numerous undergraduate, master and doctorate students.

Current Position

- (Oct. 2011 – now) **Assistant Professor** in Operations Research (Ricerca Operativa, s.s.d. MAT/09), Department of Management, Economics and Quantitative Methods, University of Bergamo (I) (permanent position).

National Scientific Habilitations

She has obtained the Italian scientific qualification as **Full Professor** in:

- Operations Research (MAT/09), Legal Soundness: Sept. 24, 2018 - Sept. 24, 2024.
- Mathematical Methods for Economics and Finance (SECSS/06), Legal Soundness: Oct. 8, 2018 - Oct. 8, 2024.

She has obtained the Italian scientific qualification as **Associate Professor** in:

- Operations Research (MAT/09), Legal Soundness: Mar. 30, 2017 - Mar. 30, 2023.
- Mathematical Methods for Economics and Finance (SECSS/06), Legal Soundness: Apr. 5, 2017 - Apr. 5, 2023.

Other Positions

- Elected member and Treasurer of the governing board of the Stochastic Programming Society “Committee on Stochastic Programming (COSP)”, 2016-2018
<https://stoprog.org/cosp-members>.
- Elected member and Secretary of the “European Working Group on Stochastic Optimization (EWGSO)”, 2016-2018
<https://www.euro-online.org/web/ewg/35/ewg-stochastic-programming-ewgsp>.
- National Coordinator with Patrizia Beraldi of AIRO Thematic Section of Stochastic Programming (2018-2022).

Former Positions

- (Oct. 2006 – Sept. 2011) *Assistant Professor* in Mathematics (Metodi matematici delle scienze attuariali e finanziarie, s.s.d. SECS–S/06), Department of Mathematics Statistics, Computer Science and Applications “Lorenzo Mascheroni”, Faculty of Economics, University of Bergamo (I) (permanent position).
- (Nov. 2005 – Sept. 2006) *Research fellow*, Department of Mathematics Statistic Computer Science and Applications, University of Bergamo, Research title: Applications of stochastic programming to energy and finance, tutor Marida Bertocchi.

Education

- (Dec. 4 2006) *Ph.D. in Mathematics* at University of Milano-Bicocca (I). Title of the thesis: Kinematics of elastic filaments and magnetic relaxation of flux tubes.
- (Sept. 18 2003) *Degree in Mathematics* at Università Cattolica del Sacro Cuore of Brescia (I), mark: 110/110 e lode. Title of the thesis: Relazioni fra K-loop e strutture di riflessione con l’applicazione al modello di Poicaré di piano iperbolico.

Indicators of Scientific Production

- SCOPUS: Documents 31; Citations 225; h-index: 9;
- GOOGLE SCHOLAR global indicators: Citations 515; h-index 14; i10-index 17;
- GOOGLE SCHOLAR indicators from 2013: Citations 410; h-index 12; i10-index 14.

Awards and Merits

- Best student award: Faculty of Mathematics, Physics and Natural Sciences, Università Cattolica del Sacro Cuore of Brescia, academic years 2000/2001 and 2001/2002.
- Ph.D. Scholarship in the years 2003-2006, Department of Mathematics and Applications of the University of Milano-Bicocca.

- Best poster award: “Modeling filament kinematics for proteic coding and viral spooling”, Conference on Knots and other Entanglements in Biopolymers: Topological and Geometrical Aspects of DNA, RNA and Protein Structures, Trieste, (Sept. 15-20 2008).
- “Progetto Giovani GNFM 2009” award, Italian group of mathematical physics. Title of the project: “Energy of knotted DNA filaments”.
- Best paper award: “Velocity, energy and helicity of vortex knots and unknots”, selected as one of the best research work of 2010, including a special mention in the issue of Virtual Journal of Atomic Quantum Fluids; Section: Topological excitations of quantum fluids.
- Second place winner: Interactive Poster Session, “INFORMS Conference” 1316 Nov. 2011 Charlotte, North Carolina (USA).
- Semi-finalist for the INFORMS Interactive Poster Session, “INFORMS Conference” 14-17 Oct. 2012 Phoenix, Arizona (USA).
- Scientific research award “5 per 1000” for scientific merits in the years 2008-2010 as researcher of the Department of Mathematics, Statistics, Computer Science and Application of the University of Bergamo.
- Scientific research award “5 per 1000” for scientific merits in the years 2012-2013-2014 as researcher of the Department of Management, Economics and Quantitative Methods of the University of Bergamo.
- Best paper award: “On the groundstate energy spectrum of magnetic knots and links”, selected by the editorial board of the Journal of Physics A: Mathematical and Theoretical as one of the best research works of 2014, including a special mention in the JPA 2014 Highlights compilation.
- Grant FFABR winner: Fondo per il finanziamento delle attività base di ricerca, year 2017, 3000 euros.
- Outstanding contribution in reviewing award for the Journal “Computers and Operations Research” (Dec. 2017).

Editorial Activities

- Associate Editor of the Journal: *Computational Management Science*, Springer.
- Guest Editor of the special issue of *Computational Management Science* associated with the conference CMS2016.
- Guest Editor of the special issue of *Annals of Operations Research*, “Stochastic Optimization: Theory and Applications, in memory of Marida Bertocchi”.
- “Outstanding Contribution in Reviewing Award” for the Journal “Computers and Operations Research” (December 2017).

- Peer Review Activity for International Journals: Computer & Mathematics with Applications, Central European Journal of Operations Research, Journal of Scheduling, Journal of Optimization, Theory and Applications, 4OR, European Journal of Operational Research, Omega, Computational Management Science, Transportation Science, INFORMS Journal on Computing, IIE Transactions, IMA Journal of Management Mathematics, Annals of Operations Research, Computers & Operations Research, Operations Research, Operational Research, AMS Reviewer

PhD membership and supervision of PhD students

She has been member of the following PhD Programs:

- Applied Economics and Management, University of Bergamo, cycles 33-34.
- Analytics for Economics and Business, University of Bergamo and Brescia, cycles 29-30-31-32.
- Metodi Computazionali per le Previsioni e decisioni economiche e finanziarie, University of Bergamo, cycles 22-23-24-25.

She has been co-supervisor with L. Bertazzi of three PhD students at the University of Bergamo:

- Matteo Cagnolari, Title of the Thesis: The Value of the Right Distribution for the Newsvendor Problem and a bikesharing problem, cycle 29.
- Sarem Deylami, Title of the Thesis: Optimization Models in Logistics, cycle 30.
- Rossana Cavagnini, Title of the Thesis: Stochastic Programming Models for distribution logistics, bikesharing and production management, cycle 31, 2016 TSL Cross Region Doctoral Grant Winner.

She has been nominated as member of the final examination committee for:

- one international PhD student of the Norwegian University of Science and Technology, Trondheim (N), 2018.
- one international PhD student of the Norwegian School of Economics NHH, Bergen (N), 2018.

She has co-supervised one annual post-doc fellow Davide Lauria at the University of Bergamo.

Prizes of her Students

- On July 2017 her phd student Rossana Cavagnini received the *TSL 2016 Cross Regional Doctoral Grant* (supervisors Francesca Maggioni and Luca Bertazzi).
- On December 2017 her bachelor student Francesca Sala received the prize *UniveristAcademia* for a thesis on “Optimizing the timetabling of the University of Bergamo (supervisor Francesca Maggioni).

- On July 2018 her master student Daniel Faccini received the prize *Rotaract club Bergamo* from Rotary for a master thesis on “Geometric, Algebraic and Computational Approaches on the Cutting Plane Method” (supervisor Francesca Maggioni).

Research Interests

My research interests regard the following areas of investigation:

- Optimization under Uncertainty for sequential problems with comparison among different methodologies like Stochastic Programming, Robust Optimization and Distributionally Robust Optimization.

From a methodological point of view my work is focused on:

- developing bounds for multistage mixed integer stochastic programming with risk measures;
- developing bounds for chance-constrained stochastic programming;
- developing bounds for multi-horizon stochastic programming;
- evaluating the quality of the expected value solution in stochastic programming;
- partial Benders decomposition for 2-stage stochastic integer programming;
- sample complexity for multistage robust optimization;
- framework for comparison between different models of uncertainty;
- worst-case analysis of rolling horizon approach in stochastic programming.

The applications considered are:

- stochastic and robust models for logistics and transportation;
 - stochastic and robust models in energy;
 - stochastic models for mobile ad-hoc network;
 - stochastic models for pension systems.
- Geometric, topological and energetic aspects associated with the mechanism of folding and coiling of closed and knotted filaments. Among these aspects, investigations are on optimal kinematics of supercoiling, models for chromatin fibre folding and energy spectrum of knots and links. Applications refer to DNA molecules in biology, vortex filaments in turbulent flows and magnetic flux-tubes in magneto-hydrodynamics.

List of Publications

Articles in Refereed International Journals

1. Maggioni, F. & Ricca, R.L. (2006) Writhing and coiling of closed filaments. *Proc. Roy. Soc. A*, **462**, 3151–3166.

2. Ricca, R.L. & Maggioni, F. (2008) Multiple folding and packing in DNA modeling. *Comput. Math. Appl.*, **55**, 1044–1053.
3. Maggioni, F., Vespucci, M.T., Allevi, E., Bertocchi, M.I. & Innorta, M. (2008) A two-stage stochastic optimization model for a gas sale retailer. *Kybernetika*, **44**(2), 277–296.
4. Maggioni, F., Kaut, M. & Bertazzi, L. (2009) Stochastic Optimization Models for a Single-Sink Transportation Problem. *Computational Management Science*, special issue on “Computational Optimization under Uncertainty”, **6**(2), 251–267.
5. Maggioni, F., Alamri, S., Barengi, C.F. & Ricca R.L. (2009) Kinetic energy of vortex knots and unknots. *Il Nuovo Cimento C*, **32**(1), 133–142.
6. Maggioni, F., Allevi, E., Bertocchi, M.I. & Potra, F. (2009) Stochastic Second-order cone programming in mobile ad hoc networks. *J. Optim. Theory Appl.*, **143**, 309–328.
7. Maggioni, F. & Ricca R.L. (2009) On the groundstate energy of tight knots. *Proc. Roy. Soc. A*, **465**(2109), 2761–2783.
8. Maggioni F., Vespucci M.T., Allevi E., Bertocchi M., Giacometti R. & Innorta M. (2010) A stochastic optimization model for gas retail with temperature scenarios and oil price parameters. *Ima J. Manag. Math.*, **21**, 149–163.
9. Maggioni, F., Alamri, S., Barengi, C.F. & Ricca R.L. (2010) Velocity, energy and helicity of vortex knots and unknots. *Phys. Rev. E.*, **82**(2), 026309–026317. (Selected for the September 2010 issue of *Virtual Journal of Atomic Quantum Fluids; Section: Topological excitations of quantum fluids*).
10. Maggioni, F., Wallace, S.W., Bertocchi, M. & Allevi, E. (2010) Sensitivity Analysis in Stochastic Second Order Cone Programming for Mobile Ad Hoc Networks. *Procedia Social and behavioral Sciences*, **2**(5), 7704–7705.
11. Maggioni, F. & Wallace, S.W. (2012) Analyzing the quality of the expected value solution in stochastic programming. *Annals of Operations Research*, 200(1), 37–54.
12. Vespucci, M.T., Maggioni, F., Bertocchi, M.I. & Innorta, M. (2012) A stochastic model for the daily coordination of pumped storage hydro plants and wind power plants. *Annals of Operations Research*, 193(1), 91–105.
13. Maggioni, F. Potra, F. & Bertocchi, M. (2013) Optimal kinematics of a looped filament, *J. Optim. Theory Appl.*, DOI: 10.1007/s10957-013-0330-8, **159**, 489–506.
14. Al-Baali, M., Spedicato, E. and Maggioni F. (2013) Broyden’s Quasi-Newton Methods for Nonlinear System of Equations and Unconstrained Optimization, a Review and Open Problems, *Optimization, Methods and Software*, **29**(5), 937–954.
15. Maggioni, F., Alamri, S., Barengi, C.F. & Ricca R.L. (2013) Vortex knots dynamics in Euler fluids *IUTAM Procedia*, Elsevier, **7**, 29–38.

16. Maggioni, F., Allevi, E. & Bertocchi, M. (2014) Bounds in multistage linear stochastic programming *J. Optim. Theory Appl.*, **163**(1), 200–229.
17. Maggioni, F., Bertocchi, M., Mosca, E., Reinbold, R. & Zucchi, I. (2014) Geometric and Computational Models of Chromatin Fibre Folding for Human Embryonic Stem Cells, *Procedia Social and behavioral Sciences*, ISSN: 1877-0428, **108**, 296–305.
18. Bertazzi, L. & Maggioni, F. (2014) The Stochastic Capacitated Traveling Salesmen Location Problem: a computational comparison for a United States instance *Procedia Social and behavioral Sciences*, ISSN: 1877-0428, **108**, 47–56.
19. Ricca, R.L. & Maggioni, F. (2014) The energy spectrum of knots and links, *Journal of Physics A: Mathematical and Theoretical*, **47**(20), 205501–205509.
20. Maggioni, F. Perboli, G. & Tadei, R. (2014) The multi-path Traveling Salesman Problem with stochastic travel costs: a City Logistics computational study *Transportation Research Procedia*. **1**(3), 528–536.
21. Kabašinskas, A., Štutienė, K. Valakevičius, E. & Maggioni F. (2014) Stochastic programming framework for Lithuanian pension payout modelling, *Croatian Operational Research Review*, **5**(2), 387–399.
22. Bertazzi, L. & Maggioni, F. (2015) Solution Approaches for the Stochastic Capacitated Traveling Salesmen Location Problem with Recourse *J. Optim. Theory Appl.*, **166**(1), 321–342.
23. Alzalg, B., Maggioni F., Vitali, S. (2016) Homogeneous Self-dual Methods for Symmetric Cones under Uncertainty, *Far East Journal of Mathematical Sciences*, **99**(11).
24. Maggioni, F. & Pflug, G. (2016) Bounds and approximations for multistage stochastic programs, *Siam Journal on Optimization*, **26**(1), 831–855.
25. Maggioni, F., Allevi, E. & Bertocchi, M. (2016) Monotonic bounds in multistage mixed-integer linear stochastic programming, *Computational Management Science*, **13**(3), 423–457.
26. Peboli, G., Gobbato, L & Maggioni, F. (2017) A Progressive Hedging method for the multi-path Traveling Salesman Problem with stochastic travel times, *IMA Journal of Management Mathematics*, doi: 10.1093/imaman/dpv024, **28**(1): 65–86.
27. Maggioni, F., Potra, F. & Bertocchi, M. (2017) A scenario-based framework for supply planning under uncertainty: stochastic programming versus robust optimization approaches, *Comput Manag Sci*, **14**(5): 5–44.
28. Ricca, R.L., Maggioni, F. (2017) Groundstate energy spectra of knots and links: magnetic versus bending energy, in *New Directions in Geometric and Applied Knot Theory*, Ed. Philipp Reiter, De Gruyter ISBN: 9783110571486.

29. Alonso-Ayuso, A., Maggioni, F. (2017) Special issue on the 13th international conference on computational management science, *Computational Management Science*, 14(4), 461-463.
30. Bertazzi, L., Maggioni, F. (2018) A Stochastic Multi-stage Fixed Charge Transportation Problem: Worst-Case Analysis of the Rolling Horizon Approach, *European Journal of Operational Research*, 267(2), 555-569.
31. Crainic, G.T., Maggioni, F., Perboli, G. & Rei, W. (2018) Reduced Cost-Based Variable Fixing in Two-Stage Stochastic Programming, *Annals of Operations Research*, DOI: 10.1007/s10479-018-2942-8.
32. Gambella, C. Maggioni, F. & Vigo, D. (2018) A Stochastic Programming Model for a Tactical Solid Waste Management Problem, *European Journal of Operational Research* DOI: 10.1016/j.ejor.2018.08.005.

Articles in Refereed Proceedings of International Conferences

33. Maggioni, F. & Ricca, R.L. (2006) Twist and fold modelling of supercoiled filaments. *Proc. 5th Int. Conf. Aplimat Bratislava*, Slovakia, Part II, 123–130.
34. Maggioni, F., Vespucci, M.T., Allevi, E., Bertocchi, M.I. & Innorta, M. (2007) A gas retail stochastic optimization model by mean reverting temperature scenarios. *Communications to SIMAI Congress, on-line*, **2**, ISSN 1827-9015, DOI: 10.1685/CSC06162, 1–10.
35. Maggioni, F. & Ricca, R.L. (2008) DNA supercoiling modeling of nucleosome and viral spooling. *PAMM, Proceedings 6th International Congress on Industrial and Applied Mathematics, Zurich 2007*, **7**, Issue 1 , 2120011–2120012.
36. Ricca, R.L. & Maggioni, F. (2008) A new stretch-twist-fold model for fast dynamo. *PAMM, Proceedings 6th International Congress on Industrial and Applied Mathematics, Zurich 2007*, **7**, Issue 1 , 2100051–2100052.
37. Maggioni, F., Allevi, E. & Bertocchi, M. (2012) The value of information in multistage linear stochastic programming. Proceeding of the Special Workshop of Stochastic Programming Community (STOPROG-2012) *Stochastic Programming for Implementation*. ISBN 978-609-95241-4-6 Sakalauskas, A. Tomaszgard, S. W.Wallace (Eds.): Proceedings. Vilnius, 78-82.
38. Maggioni, F., Bertocchi, M., Allevi, E., Potra, F.A., Wallace, S.W. (2013) Stochastic second-order cone programming in mobile ad-hoc networks: sensitivity to input parameters, in *Stochastic Programming, Applications in Finance, Energy and Logistics* (H.I.Gassmann, S.W.Wallace, W. T.Ziemba eds), World Scientific, ISBN: 978-981-4407-50-2, chapter 17, pages 467–486.
39. Kabašinskas, A., Šutienė, K. Valakevičius, E. & Maggioni F. (2014) Stochastic Programming Framework for Lithuanian Pension Payout Modelling. 15 International Conference on Operational Research, KOI 2014 pp.77 Osijek: Croatian Operational Research Society ISSN 1849-5141

40. Maggioni, F., Perboli, G., Tadei, R., (2014). The multi-path traveling salesman problem with stochastic travel costs: Building realistic instances for city logistics applications. 17th Annual Meeting of the EURO Working Group on Transportation (EWGT 2014), July 2-4, 2014 (pp.86-87). Sevilla: University of Seville. ISBN: 978-84-617-1148-2
41. Maggioni, F. & Allevi, E. (2017) Bounding Multistage Stochastic Programs: a Scenario Tree Based Approach, Lecture Notes in Computer Science, ODS2017 International Conference on Optimization and Decision Science: Methodologies and Applications, Springer Proceedings in Mathematics & Statistics 217, 403-411.
42. Cavagnini, R., Bertazzi, L. & Maggioni, F. (2018) A two-stage stochastic model for distribution logistics with transshipment and backordering: stochastic versus deterministic solutions, Springer Proceedings in Mathematics & Statistics, Springer AIRO Series (ed. P. Daniele and L. Scrimali).
43. Bertazzi, L. & Maggioni, F. (2018) Forecasting Methods and Optimization Models for the Inventory Management of Perishable Products: the Case of “La Centrale del Latte di Vicenza SpA”, AIRO Springer Series on Applications 2018 (ed. M. DellAmico, M. Gaudio, G. Stecca)

Articles in Refereed Italian Journals or Books

44. Maggioni, F. (2007) Cinematiche di filamenti elastici e rilassamento magnetico di tubi di flusso. *Bollettino U.M.I. La Matematica nella Società e nella Cultura*, Serie VIII, Vol. X-A, Agosto 2007, 267–270.
45. Bertocchi, M., Maggioni, F., Innorta, M., Vespucci, M.T., Allevi, E., Gambarini, S. & Nicolini, S. (2008) La vendita al dettaglio del gas nel mercato liberalizzato: un modello di ottimizzazione stocastica. *Matematica e Impresa*, **1**, 16.
46. Bertocchi, M., Maggioni, F., Allevi, E., Vespucci, M.T., Innorta, M. & Gambarini, S. (2008) Un modello stocastico per la vendita al dettaglio del gas. In *Scienza delle decisioni in Italia: applicazioni della ricerca operativa a problemi aziendali*, Ed. Felici G. and Sciomachen A., 105–116.
47. Allevi, E., Maggioni, F. (2010) chapter 2: Proprietà base e teoria della programmazione stocastica lineare and chapter 3 Il metodo L-Shaped, in *Programmazione stocastica e applicazioni* by J. Abaffy, E. Allevi, M. Bertocchi, V. Moriggia, Apogeo, Milano ISBN/ISSN: 978-88-7534-044-5.
48. Allevi, E., Maggioni, F. (2010) chapter 3 Il metodo L-Shaped, in *Programmazione stocastica e applicazioni* by J. Abaffy, E. Allevi, M. Bertocchi, V. Moriggia, Apogeo, Milano ISBN/ISSN: 978-88-7534-044-5.
49. Maggioni F., (2010) Modelli di ottimizzazione stocastica per lo scheduling di mezzi di trasporto nel settore cementifero, in chapter 4: Applicazioni in finanza ed economia by M. Bertocchi in *Programmazione stocastica e applicazioni* by J. Abaffy, E. Allevi, M. Bertocchi, V. Moriggia, Apogeo, Milano, ISBN/ISSN: 978-88-7534-044-5.

50. Maggioni F., Bertazzi, L., Kaut, M. (2010) Scheduling di mezzi di trasporto nel settore cementifero. *Matematica e Impresa*, Edizione 2010.
51. Maggioni F. (2017) La bellezza e l'utilità della matematica: un omaggio a Marida Bertocchi, Atti dell'Ateneo di Bergamo, 185-196.
52. Maggioni F. (2019) La programmazione non lineare, Capitolo 6 in *Strategie, Introduzione alla teoria dei giochi e delle decisioni* (ed. C. Bertini, G. Gambarelli, I. Stach), Giappichelli Editore.
53. Maggioni F. (2019) La programmazione stocastica, Capitolo 10 in *Strategie, Introduzione alla teoria dei giochi e delle decisioni* (ed. C. Bertini, G. Gambarelli, I. Stach), Giappichelli Editore.

Other Publications

54. Maggioni, F. (2006) Kinematics of elastic filaments and magnetic relaxation of flux tubes. *Ph.D. Thesis*, University of Milano-Bicocca.

Preprints (Under Evaluation in International Journals)

55. Kabašinskas, A., Šutienė, K. & Maggioni F. A Multistage Risk Averse Stochastic Programming Model for Personal Savings Accrual: the Evidence from Lithuania (third revision in *Annals of Operations Research*).
56. Maggioni, F., & Pflug, G. Guaranteed Bounds for General Non-discrete Multistage Risk-Averse Stochastic Optimization Programs (third revision in *SIOPT*).
57. Maggioni, F., Allevi, E. & Tomasgard, A Bounds for multi-horizon stochastic programs (first revision in *Annals of Operations Research*).
58. Cavagnini, R., Bertazzi, L., Maggioni, F. & Hewitt, M., Multi-objective stochastic optimization-based approaches for managing a bike sharing system (first revision in *OMEGA*).
59. Maggioni, F., Cagnolari, M., Bertazzi, L. & Wallace, SW. A Stochastic Optimization Model for a Bike-Sharing Problem with Transshipment (first revision in *European Journal of Operational Research*).
60. Maggioni, F., Cagnolari, M. & Bertazzi, L. The Value of the Right Distribution in Stochastic Programming with Application to a Newsvendor Problem (first revision in *Computational Management Science*).
61. Lauria, D., Consigli, G. & Maggioni, F. Distributionally robust chance-constrained dynamic pension fund management (submitted to *EJOR*).
62. Cavagnini, R. Hewitt, M. & Maggioni, F. Workforce production planning under uncertain learning rates (submitted to *International Journal of Production Economics*).
63. Peng, S., Lissner A. & Maggioni, F. Bounds for probabilistic constrained problems (to be submitted in *Journal of Optimization Theory and Applications*).

In Preparation

64. Crainic, G.T., Hewitt, M., Maggioni, F. & Rei, W. Decomposition Strategies for two-stage stochastic integer programming.
65. Maggioni, F., Dabbene & Pflug. G. On the sample complexity of multistage robust convex optimization problems.
66. Bertazzi, L., Maggioni, F., Meisel, S. & Powell, WB. Analysis of policies in an energy storage problem with stochastic loads.
67. Maggioni, F., Cavagnini, R. & Ahmed, S. Optimization Driven Monotonic Bounds for Stochastic Programs.
68. Filippi, C. Maggioni, F. & Speranza, M.G. Stochastic Shortest Path: A review.

Talks and Invited Seminars

1. (Oct. 2 2003) *The K-loop associated to the hyperbolic plane and its automorphisms*, Bologna (I) (invited seminar).
2. (Dec. 4 2003) *The hyperbolic plane: from the structure of reflection to the K-loop*, Roma (I).
3. (Nov. 25 2004) *Measure of complexity of spaced curves*, Università Cattolica del Sacro Cuore di Brescia (I) (invited seminar).
4. (Aug. 1 2005) *Twist and fold of filaments in nature*, Isaac Newton Institute for Mathematical Sciences, Cambridge (UK).
5. (Jan. 31 2006) *Twist and fold modeling for DNA supercoiling*, “Incontro su Metodi Teorici in biologia”, Milan (I).
6. (Sept. 11 2006) *A stochastic optimization model for gas sale company*, “XXXVII International Conference AIRO 2006”, Cesena, (FC) (I).
7. (Jan. 24 2007) *Models of supercoiling: from DNA to...*, Università Cattolica del Sacro Cuore di Brescia (I) (invited seminar).
8. (Feb. 27 2007) *Stochastic optimization models for gas sale company*, “Gestione del rischio finanziario nei mercati dell’energia: applicazioni e problemi, Giornata di Studio”, University of Milano-Bicocca (I).
9. (Apr. 12 2007) *Stochastic optimization models for gas sale company: influence of different stochastic factors*, “Spring school 2007, Stochastic programming: theory and applications”, Bergamo (I).
10. (May 4 2007) *Introduction to stochastic programming*, University of Brescia (I) (invited seminar).

11. (June 12 2007) *Stochastic optimization models for gas sale company*, Molde University College, Norwegian school of Logistic (N) (invited seminar).
12. (July 20 2007) *Multiple folding and packing in DNA modeling*, “ICIAM07 6th International Conference on Industrial and Applied Mathematics”, Zurich (CH).
13. (Aug. 27 2007) *A stochastic optimization model for gas retailer with temperature scenarios and oil prices parameters*, “11th Conference on Stochastic Programming”, Vienna (A).
14. (Sept. 5 2007) *A stochastic optimization model for gas retailer with temperature scenarios and oil prices parameters*, “XXXI Convegno Amases”, Lecce (I).
15. (Jan. 22 2008) *A two-stage stochastic optimization model for gas retailer with temperature scenarios and oil prices parameters*, “Second FIMA International Conference”, Champoluc (I).
16. (Apr. 4 2008) *Multiple folding and packing in DNA modeling*, School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK) (invited seminar).
17. (May 29 2008) *A single-Sink transportation problem: stochastic optimization models*, “AP-MOD2008, International Conference on Applied Mathematics Programming and Modelling, Bratislava (CS).
18. (Sept. 1 2008) *Stochastic Second-Order Cone Programming in Mobile ad-hoc Networks*, “XXXII Convegno Amases”, Trento (I).
19. (Sept. 5 2008) *Stochastic Second-Order Cone Programming in Mobile ad-hoc Networks*, “CARIPLO Workshop on Numerical Linear and Nonlinear Stochastic Programming”, Edinburgh (UK).
20. (Sept. 10 2008) *A single-Sink transportation problem: stochastic optimization models*, “XXXIX Annual Conference of Italian Operational Research Society ”, Ischia (I).
21. (Sept. 18 2008) *Modeling filament kinematics for proteic coding and viral spooling*, “Conference on Knots and other Entanglements in Biopolymers: Topological and Geometrical Aspects of DNA, RNA and Protein Structures”, Trieste (I) (poster selected for an oral presentation).
22. (Oct. 11 2008) *New results on vortex knots and unknots*, “The Eighth International Seminar on Geometry Continua and Microstructures 2008”, Catania (I).
23. (Jan. 22 2009) *Stochastic Second-Order Cone Programming in Mobile ad-hoc Networks*, “Third FIMA International Conference”, Gressoney (I).
24. (Apr. 15 2009) *On the groundstate energy of magnetic knots*, School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK) (invited seminar).
25. (Apr. 27 2009) *Energia minima di nodi magnetici rilassati*, Università Cattolica del Sacro Cuore di Brescia (I) (invited seminar).

26. (May 27 2009) *On vortex knots and unknots*, “Advanced School and Conference on Knot Theory and its Applications to Physics and Biology”, ICTP Trieste (I).
27. (July 9 2009) *Twist and fold modelling of supercoiled filaments*, “New trends in physics and mechanics of biological systems”, Ecole de Physique, Les Houches (Chamonix), (F).
28. (Sept. 17 2009) *On vortex knots and unknots*, “Mathematical Models of Quantum Fluids, Geometrical Analytical and Computational Aspects”, Verona (I).
29. (Dec. 8 2009) *On the groundstate energy of magnetic knots*, Physics Department, Lancaster University, Lancaster (UK) (invited seminar).
30. (July 12 2010) *Stochastic Second Order Cone Programming in Mobile ad Hoc Networks*, “EURO XXIV”, Lisbon (P).
31. (July 21 2010) *Sensitivity Analysis in Stochastic Second-Order Cone Programming for Mobile Ad-Hoc Networks*, “SAMO 2010”, Bocconi University, Milan (I).
32. (Aug. 20 2010) *Analyzing the quality of the expected value solution in stochastic programming* “XII International Conference on Stochastic Programming”, Halifax, Nova Scotia (CDN).
33. (Sept. 10 2010) *Stochastic Second Order Cone Programming in Mobile ad-hoc Networks: sensitivity analysis and quality of expected value solution*, “41st Annual AIRO Conference”, Villa S. Giovanni (Reggio Calabria), (I).
34. (Apr. 28 2011) *The value of information in multistage linear stochastic programming*, “8th International Conference on Computational Management Science”, University of Neuchâtel, (CH).
35. (May 19 2011) *Linking Numbers in Vortex and Magnetic Knots*, Workshop: “Entanglement and Linking” in the “Intensive Research Period: Knots & Applications”, Centro di Ricerca Matematica Ennio De Giorgi, Scuola Normale Superiore di Pisa (I).
36. (July 5 2011) *Optimal kinematics of supercoiled filaments*, Poster presented in the ESF-EMS-CRM-Pi International Conference on “Knots and Links: From Form to Function”, Centro di Ricerca Matematica Ennio De Giorgi, Scuola Normale Superiore di Pisa (I).
37. (Sept. 5 2011) *Ottimizzazione stocastica: decidere in condizioni di incertezza*, Summer School San Pellegrino Terme (I) (invited seminar).
38. (Sept. 7 2011) *The value of information in multistage linear stochastic programming: a case study*, “AIRO 2011” Conference, Brescia (I).
39. (Oct. 27 2011) *Modelli di ottimizzazione per cinematiche di filamenti superavvolti*, “Interdipartimental seminar MAT-STAT”, University of Bergamo (I).
40. (Nov. 4 2011) *Generazione scenari in Ottimizzazione Stocastica: un'introduzione*, University of Brescia (I) (invited seminar).

41. (Nov. 13 2011) *A stochastic second order cone model for a single-facility location problem*, “INFORMS 2011” Conference, Charlotte, (NC) USA.
42. (Nov. 15 2011) *Optimal kinematics of supercoiled filaments* Interactive Poster Session, “INFORMS 2011” Conference, Charlotte, (NC) USA (Second Place Winner: Interactive Poster Session).
43. (March 2 2012) *Introduzione all’Ottimizzazione Stocastica*, Università Cattolica del Sacro Cuore di Brescia (I) (invited seminar).
44. (March 20 2012) *A stochastic model for daily coordination of pumped storage hydro plants and wind power plants*, FIWEM1 Brescia (I).
45. (March 29 2012) *Velocity, energy and helicity of vortex knots and unknots*, Vortices and solitons in classical and quantum fluids, CIRM Maiseille, (F).
46. (April 17 2012) *A Stochastic Second Order Cone Model for a Stochastic Capacitated Traveling Salesmen Location Problem with Recourse*, CMS, London (UK).
47. (June 5 2012) *Measures of Information in Multistage Stochastic Programming*, Italian Spanish Workshop on Optimization, Politecnico di Milano (I) (invited seminar).
48. (June 26 2012) *Optimal Kinematics of Supercoiled Filaments*, SIMAI 2012 Politecnico di Torino, (I).
49. (July 5 2012) *Measures of Information in Multistage Stochastic Programming*, Special Workshop of Stochastic Programming Community (STOPROG-2012) Stochastic Programming for Implementation, Neringa (LT).
50. (July 10 2012) *A Stochastic Second Order Cone Model for a Stochastic Capacitated Traveling Salesmen Location Problem with Recourse*, EURO2012, Vilnius (LT).
51. (July 24 2012) *Velocity, energy and helicity of vortex knots and unknots*, Topological Fluid Dynamics (IUTAM Symposium), INI Cambridge (UK).
52. (Aug. 23 2012) *Measures of information in multistage linear stochastic programming*, ISMP2012 Berlin (D).
53. (Sept. 3 2012) *Modeling chromatin fibre folding for human embryonic stem cells and cancer cells*, Topological Aspects of DNA Function and Protein Folding, INI Cambridge (UK).
54. (Sept. 7 2012) *A Stochastic Second Order Cone Model for a Capacitated Traveling Salesmen Location Problem*, AIRO 2012, Vietri sul Mare, Salerno (I).
55. (Oct. 16 2012) *Modeling chromatin fibre folding for human embryonic stem cells and cancer cells*, “INFORMS 2012” Conference, Phoenix, (AZ), USA.
56. (Oct. 24 2012) *Vortex knots dynamics in Euler fluids and optimal kinematics of elastic filaments*, UEA, Norwich (UK).

57. (Oct. 30 2012) *Optimal kinematics of supercoiled filaments*, INI, Cambridge (UK).
58. (Nov. 5 2012) *Bounds for stochastic optimization programs*, University of Vienna, Department of Statistics and Operations Research (A) (invited seminar).
59. (Jan. 31 2013) *A Stochastic Model for the Capacitated Traveling Salesmen Location Problem*, AIRO Winter 2013, Champoluc (I).
60. (April 4 2013) *Bounds and Approximations in Multistage Stochastic Programming*, Politecnico di Torino, (I) (invited seminar).
61. (April 7 2013) *Measures of information and quality of solutions in stochastic programs* PhD Winterschool 2013: Stochastic programming with applications in energy and natural resources, Tignes (F) (Plenary talk).
62. (June 10-17 2013) *Bounds and Approximations in Multistage Stochastic Programming*, 59th Workshop Nonlinear Optimization: a Bridge from Theory to Applications Erice, 10-17 June 2013 (I).
63. (July 1-4 2013) *Optimal kinematics of supercoiling*, EURO-INFORMS Conference, session organizer of the invited session: Nonlinear Optimization in Mathematical Biology (I).
64. (July 8 2013) *Bounds in Multistage Stochastic Programs*, ICSP2013, Bergamo (I).
65. (Aug. 1 2013) *Bounds in Multistage Stochastic Programs*, ICOPT, Lisbon (P).
66. (Oct. 18 2013) *Bounds and Approximations in Multistage Stochastic Programs with application to logistics and transportation*, CIRRELT, Montreal (CDN) (invited seminar).
67. (Nov. 17-23 2013) Master Course: *Introduction to Stochastic Programming and its applications to energy and logistics*, KTU, Kaunas (LT) (invited course).
68. (March 10-15 2014) PhD Course lecture: Stochastic Programming and its applications to Network, Energy and Logistics problems, Politecnico di Torino (I) (invited course).
69. (March 23-28 2014) PhD Course lecture: Bounds in Multistage Stochastic Programming. Phd Winter school: Stochastic programming with applications in energy, finance and insurance, Bad Hofgastein (A) (plenary talk).
70. (April 9 2014) Bounds for stochastic multistage transportation problems (Session organizer: Uncertainty in Logistics and Transportation) APMOD, Warwick (UK).
71. (June 16 2014) Vortex knots and unknots in Euler Fluids, ESF Exploratory Workshop, Glasgow (UK) (invited talk).
72. (July 14 2014) Progressive Hedging method for the multi-path Traveling Salesman Problem with stochastic travel times, IFORS Conference, Barcelona (S).
73. (September 2 2014) A Progressive Hedging Method for the multi-path Travelling Salesman Problem with stochastic travel times, AIRO conference, Como.

74. (September 24-26 2014) A Progressive Hedging Method for the multi-path Travelling Salesman Problem with stochastic travel times, EURO Mini Conference on Stochastic Programming and Energy Applications (EuroCSP2014) Paris (Session organizer: Stochastic programming in Logistics and Transportation).
75. (October 17 2014) Monotonic Bounds for a stochastic multistage mixed-integer supply transportation problem, CIRRELT, Montreal (CDN) (invited seminar).
76. (January 26 2015) Stochastic versus robust optimization for a supply transportation problem, Airo Winter Conference, Champoluc, Aosta (I).
77. (May 21 2015) Bounds and Approximations for Stochastic Multistage Programs, Invited seminar, University of Salerno (I) (invited seminar).
78. (May 31, June 5 2015) Stochastic versus Robust Optimization for a Supply Transportation Problem, Odysseus 2015 Sixth International Workshop on Freight Transportation and Logistics Ajaccio (F).
79. (July 12-19 2015) Bounds and Approximations for Stochastic Multistage Programs, 22nd International Symposium on Mathematical Programming, Pittsburgh (USA).
80. (September 1-4 2015) Monotonic Bounds and Approximations in multistage stochastic programs, OR 2015, Vienna (A) (invited seminar).
81. (September 7-10 2015) A Transportation Problem under uncertainty: Stochastic versus Robust Optimization solution approaches, AIRO 2015, Pisa (I).
82. (October 30 2015) The generalized skeleton solution: a new measure of the quality of the deterministic solution in stochastic programming, CIRRELT, Montreal (CDN) (invited seminar).
83. (November 1-4 2015) Stochastic Programming versus Dynamic Programming in a Procurement Transportation Problem, INFORMS annual meeting, Philadelphia (USA).
84. (December 17 2015) Monotonic Bounds and Approximation in Multistage Stochastic Programs, University of Vienna, Vienna (A) (invited seminar).
85. (April 11 2016) Groundstate magnetic energy vs bending energy of knots and links, International IUTAM Symposium Helicity, Structures and Singularity in Fluid and Plasma Dynamics held at the Istituto Veneto, Venice (I) (invited talk).
86. (May 12 2016) Bounds and Approximations in Stochastic Programming, Department of Electrical, Electronic, and Information Engineering Guglielmo Marconi, University of Bologna (I) (invited seminar).
87. (May 17 2016) L'energia minima dei nodi, Università Cattolica del Sacro Cuore di Brescia (I) (invited seminar).

88. (June 2 2016) Worst-case Analysis of Rolling Horizon Approaches for a Stochastic Multistage Fixed Charge Transportation Problem, Computational Management Science Salamanca (S).
89. (June 24 - July 2 2016) Bounding Multistage Risk-averse Stochastic Programs, International Conference on Stochastic Programming ICSP2016, Buzios, Rio de Janeiro (BR) (session organizer).
90. (Aug. 28 - Sept. 2 2016) Worst-case analysis of Rolling Horizon Approach in Multistage Stochastic Programming: a Transportation Procurement Problem, The first Georgia Tech/University of Bergamo Optimization Workshop, Atlanta (USA) (invited talk).
91. (Aug. 28 - Sept. 2 2016) Guaranteed Bounds and Approximations in Multistage Stochastic Programs, The first Georgia Tech/University of Bergamo Optimization Workshop, Atlanta (USA) (invited talk).
92. (Sept. 6-9 2016) Worst-case Analysis of Rolling Horizon Approaches for a Stochastic Multistage Fixed Charge Transportation Problem, AIRO Conference, Trieste (I) (session organizer).
93. (Nov. 13-16 2016) On The Sample Complexity Of Multistage Robust Convex Optimization Problems, INFORMS Conference, Nashville, Tennessee (USA).
94. (Jan. 15-21 2017) Bounds and Approximations in Stochastic and Robust Optimization, PhD Winter School in Stochastic Programming with applications in energy, logistics and nance, Passo del Tonale (I) (plenary talk).
95. (April 5 2017) La bellezza e l'ulità della matematica, Omaggio a Marida Bertocchi, Ateneo di Scienze Lettere ed Arti di Bergamo (I) (invited seminar).
96. (May 29- June 1 2017) Bounding Approaches for Multistage Stochastic and Robust Optimization Problems, Computational Management Science Conference, Bergamo (I) (plenary talk).
97. (June 5-8 2017) The Stochastic Multistage Fixed-Charged Transportation Problem: Worst-Case Analysis of the Rolling-Horizon Approach, Network Optimization Conference NOW2017, Viterbo (I).
98. (Sept. 4-7 2017) Bounding multistage stochastic programs: a scenario tree based approach, International Conference on Optimization and Decision Science XLVII Annual Meeting of AIRO, Sorrento (I) (session organizer).
99. (Sept. 20-22 2017) Guaranteed Bounds for Multistage Stochastic Optimization Programs through stochastic dominance, European Conference on Stochastic Optimization, Rome (I) (session organizer).
100. (Feb. 8-9 2018) Guaranteed Bounds for Non-discrete Multistage Risk-Averse Stochastic Optimization Programs through Stochastic Dominance, 2018 WORKSHOP on Stochastic

Optimisation and Data Analytics for Computational Management University of Bergamo (I).

101. (April 4-6 2018) Guaranteed Bounds for Multistage Risk-Averse Stochastic Optimization Programs, Department of Probability and Mathematical Statistics, Faculty of Mathematics and Physics, Charles University in Prague, (CZ) (invited seminar).
102. (May 16-18 2018) Distributionally robust chance-constrained dynamic pension fund management, 61st Meeting of EURO Working Group for Commodities and Financial Modelling, Kaunas, Lithuania.
103. (May 29-31 2018) Bounds for Probabilistic Constrained Problems, International Conference on Computational Management Science, Trondheim (N).
104. (June 3-8 2018) A two-stage stochastic optimization model for the bike sharing allocation and rebalancing problem, Odysseus 2018 Conference, Cagliari (I).
105. (July 1-6 2018) Bounds in Probabilistic Constrained Problems, 23th International Symposium on Mathematical Programming, Bordeaux (F).
106. (July 8-11 2018) Guaranteed bounds for general non-discrete multistage risk-averse stochastic optimization programs, 29th European Conference on Operational Research, Valencia (S).
107. (August 18-25 2018) Bounds in stochastic programs, Workshop New directions in Stochastic Optimisation, Mathematisches Forschungsinstitut Oberwolfach (DE).
108. (Sept. 10-13 2018) Bounds for Probabilistic Constrained Problems, International Conference on Optimization and Decision Science, Taormina (I).
109. (Sept. 13- 15 2018) Guaranteed Bounds for Multistage Risk-Averse Stochastic Optimization Programs, 42nd Annual Meeting of the AMASES Association for Mathematics Applied to Social and Economic Sciences Napoli (I).

Research Visits

- (May 16 – June 25 2007) Molde University College, Norwegian school of Logistic (N).
- (Mar. 28 – Apr. 8 2008) School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK).
- (Apr. 14–19 2009) School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK).
- (Mar. 8–10 2010) Oxford Centre for Collaborative Applied Mathematics, Oxford (UK).
- (Nov. 3 2009– May 2010) Department of Management Science, Lancaster University Management School, Lancaster (UK).

- (Nov. 17–26 2011) Department of Mathematics & Statistics, University of Maryland, (USA).
- (Sept. 1 – Nov. 30 2012) Isaac Newton Institute for Mathematical Science, Invitation to participate to the program “Topological Dynamics in the Physical and Biological Sciences”, Cambridge (UK).
- (Nov. 3 – Nov. 6 2012) University of Vienna, Department of Statistics and Operations Research (A).
- (Oct. 14 – 21 2013) “CIRRELT Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise, la Logistique et le Transport”, Montreal (CND).
- (Oct. 12 – 20 2014) “CIRRELT Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise, la Logistique et le Transport”, Montreal (CND).
- (Dic. 1 – 3 2014) University of Vienna, Department of Statistics and Operations Research (A).
- (Oct. 25 – 31 2015) “CIRRELT Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise, la Logistique et le Transport”, Montreal (CND).
- (Dic. 13 – 20 2015) University of Vienna, Department of Statistics and Operations Research (A).
- (Apr. 19 – 21 2017) University of Vienna, Department of Statistics and Operations Research (A).
- (Nov. 15 – 29 2017) University of Paris Sud, Laboratoire de Recherche en Informatique (LRI) (F).
- (Feb. 15 – 20 2018) University of Vienna, Department of Statistics and Operations Research (A).
- (Jul. 11 – 14 2018) University of Vienna, Department of Statistics and Operations Research (A).

Research Projects and Grants

- Principal Investigator of the Grant from the Italian group of mathematical physics “Progetto Giovani GNFM 2009”: “Energy of knotted DNA filaments”, 3000 euros.
- Principal Investigator of the Galileo Project 2015 “Stochastic Optimization for Energy Planning”. French investigator A. Lisser, Université Paris Sud. The proposal received the evaluation A+ but was not funded due to budget limitations.
- Principal Investigator of the project “Virtualizzazione della produzione di serie. Garantire la robustezza e la costanza del processo con l’ottimizzatore”, in collaboration with ECOTRE (2016), 4000 euros.

- Principal Investigator of the project “Potenziamento dei metodi di previsione delle vendite dei prodotti conto terzi e programmazione ottimale dell’approvvigionamento di materie prime e di materiali per l’imballaggio ed il confezionamento”, in collaboration with CENTRALE DEL LATTE DI VICENZA S.p.a., University of Brescia (prof. L. Bertazzi) and Sportello Matematico per l’industria italiana (2016), 10000 euros.
- Principal Investigator of the Galileo Project 2017 “Optimization of emergency department workforce scheduling problem under uncertainty”. French investigator A. Lisser Université Paris Sud. The proposal received the evaluation A but was not funded due to budget limitations.
- Principal Investigator of CARIPLO foundation Grant 2012: ”FYRE - Fostering Young Reserchers project”, 5000 euros.
- Principal Investigator of the Grant FFABR: Fondo per il finanziamento delle attività base di ricerca, 2017, 3000 euros.
- PRIN2015 “Transportation and Logistics Optimization in the Era of Big and Open Data”; national coordinator MG. Speranza, 05/02/2017 - 05/02/2020, protocol n. 2015JJLC3E, member of the Research unit of the University of Brescia, 214485 euros.
- EN17 PROJECT Accordo Quadro, Regione Lombardia: “Metodi di integrazione delle fonti energetiche rinnovabili e monitoraggio satellitare dell’impatto ambientale”; coordinatore A. Fassó, CUP F11J10000200002, 2011-2012, role: researcher, 856000 euros.
- PRIN2009 “Modelli e algoritmi avanzati per problemi di vehicle routing”; national coordinator MG. Speranza, protocol n. 2009HWBRAW, 17/10/2011 - 17/10/2013, member of the Research unit of the University of Brescia, 128727 euros.
- PRIN2005 “Modelli di supporto alle decisioni per gli operatori del mercato elettrico italiano e loro impatto sulla sicurezza del sistema”; national coordinator R. Musmanno, protocol n. 2005015592, 2007-2009, member of the Research unit of the University of Bergamo, 56000 euros.
- Grants from the University of Bergamo for research visit and seminar at the University of Bergamo of the following international colleagues: F. Potra, A. Lisser, G. Pflug, M. Hewitt, I. Bomze, S. Meisel, D. Dentcheva, M.E. Bruni, G. Bayraksan.
- Grants from the Department of Management Economics and Quantitative Methods, University of Bergamo for annual research projects as principal investigator:
 - University Grant 2007: “Minimization of the elastic energy functional of a supercoiled filament. Applications to DNA”.
 - University Grant 2008: “Magnetic relaxation by the STF mechanism”.
 - University Grant 2009: “The energy of knotted configurations and applications to biology and ideal fluids”.

- University Grant 2010: “Evaluation measures of the deterministic solution in stochastic optimization and applications”.
- University Grant 2011: “Optimal kinematics of supercoiled filaments”.
- University Grant 2013 “Metodi di Ottimizzazione per la Gestione dell’Incertezza in Problemi di Trasporto e Logistica”.
- University Grant 2014 “Measuring Uncertainty in Logistics and Transportation”.
- University Grant 2015 “Partial Benders decomposition strategies for problems in transportations and logistics”.
- University Grant 2016 “Bounds and decomposition methods in stochastic programming”.
- University Grant 2017 “Bounding Multistage Stochastic Optimization Programs: the case of infinite Risk-Averse, multi-horizon and chance-constrained problems”.
- University Grant 2018 “Bounding Multistage Distributionally Robust Optimization Problems”.

Teaching Experiences

- Undergraduate course “Ricerca Operativa”, Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2013/2014, 2015/2016, 2016/2017, 2017/2018 2018/2019.
- Graduate course “Quantitative Models for Decision Making” (with M.T. Vespucci), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019.
- Graduate course “Ricerca Operativa”, Scienze Matematiche, Fisiche e Naturali, Università Cattolica of Brescia, academic years 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019.
- Phd course “Mathematics for Economics and Management” (with S. Ortobelli), Course of the Doctorate Program in “Applied Economics and Management”, University of Bergamo and Pavia, cycle 33, 34.
- Phd course “Measure Theory”, Course of the Doctorate Program in “Computational Methods for Forecasting and Decisions in Economics and Finance” - Faculty of Economics, University of Bergamo, academic years 2008/2009–2010/2011–2011/2012–2016/2017.
- Phd course “Non Linear Optimization”, Course of the Doctorate Program in “Computational Methods for Forecasting and Decisions in Economics and Finance” - Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2016/2017.
- Phd course “Introduction to Stochastic Programming”, Course of the Doctorate Program in “Computational Methods for Forecasting and Decisions in Economics and Finance” -

Department of Management, Economics and Quantitative Methods, University of Bergamo, academic year 2011/2012, 2013/2014, 2014/2015, 2015/2016, 2016/2017.

- Undergraduate course “Mathematical Methods for Economics and Finance”, University of Bergamo, academic years 2007/2008, 2008/2009, 2010/2011, 2011/2012, 2018-2019.
- “Fundamentals and teaching of geometry”, Corsi speciali abilitanti Silsis, section of Bergamo and Brescia, academic year 2006/2007.
- Tutor at Department of Mathematics, Università Cattolica of Brescia, academic years 2001/2002, 2002/2003, 2003/2004 2004/2005 and 2005/2006.
- Teaching assistant of “Linear Algebra and Geometry” at Faculty of Engineering, University of Brescia, academic years 2003/2004 and 2004/2005.
- Teaching assistant of “Complements of Geometry” at Department of Mathematics, Università Cattolica of Brescia, academic years 2003/2004, 2004/2005 and 2005/2006.
- On-line teaching assistant of the undergraduate course of “Mathematics” at Faculty of Economics, University of Bergamo, academic year 2004/2005.
- Teaching assistant of the undergraduate course of “Mathematics” at Faculty of Economics, University of Bergamo, academic year 2004/2005.
- Teaching assistant of the graduate course “Methods of Optimization” at Faculty of Economics, University of Brescia, academic year 2004/2005 e 2005/2006.
- Teaching assistant of the Master course “Mathematics”, First level Master “Energy Risk Management”, University of Milano-Bicocca, University of Bergamo, April 2006 – May 2006.
- Scholar of *Geometry 1, Geometry 2, Geometry 3, Complements of Geometry, Deepening of Geometry 2, Superior Geometry 1, Institutions of Superior Geometry 1* at Università Cattolica of Brescia, academic years 2003/2004, 2004/2005 and 2005/2006.
- Scholar of *Methods of Optimization, Financial Mathematics* at Faculty of Economics, University of Brescia, academic year 2005/2006.

Other Scientific Activities

- Invited Sessions Organizer:
 - (Sept. 13-15 2018) Optimization under Uncertainty, 42nd Annual Meeting of the AMASES Association for Mathematics Applied to Social and Economic Sciences, AMASES 2018, Napoli (I).
 - (Sept. 10-13 2018) Optimization under Uncertainty, ODS2018 International Conference on Optimization and Decision Science, XLVIII Annual Meeting of AIRO Taormina (I).

- (July 8-11 2018) Advances in Stochastic and Robust Optimization, EURO 2018 Conference, Valencia (S).
 - (July 8-11 2018) Robust and Distributionally Robust Optimization, EURO 2018 Conference, Valencia (S).
 - (May 29-31 2018) Optimization under Uncertainty in Logistics and Transportation, Computational Management Science Conference, Trondheim (N).
 - (May 29-31 2018) Bounds and Approximations in Stochastic Programming, Computational Management Science Conference, Trondheim (N).
 - (Sept. 20-22, 2017) Ambiguity and Uncertainty in Financial Optimization, European Conference on Stochastic Optimization, ECSO 2017, Rome (I).
 - (Sept. 20-22, 2017) Risk Aversion and Stochastic Dominance in SP, European Conference on Stochastic Optimization, ECSO 2017, Rome (I).
 - (Sept. 4-7, 2017) Stochastic Programming, ODS2017 International Conference on Optimization and Decision Science, XLVII Annual Meeting of AIRO Sorrento (I).
 - (29 May 1 - June 2017) Uncertainty in Logistics and Transportation, CMS Conference Bergamo (I).
 - (6-9 Sept. 2016) Stochastic Programming in Logistics (with L. Bertazzi) AIRO Conference Trieste (I).
 - (25 June - 1 July 2016) Bounds and decomposition methods in stochastic programming, International Conference on Stochastic Optimization, ICSP2016 Buzios (B).
 - (24-26 Sept. 2014) Stochastic Programming in Logistics and Transportation, EURO Mini Conference on Stochastic Programming, Paris (F).
 - (9-11 April 2014) Uncertainty in Logistics and Transportation, International Conference on Applied Mathematical Optimization and Modelling APMOD, Warwick (UK).
- Invited Stream Organizer:
 - Stream: “Stochastic and Robust Optimization”, 29 European Conference on Operational Research, Valencia, Jul. 8-11, 2018, Valencia (S).
 - Stream “Stochastic Models for Service Operations”, IFORS Conference, Jul. 13-18, 2014, Barcelona (S).
 - Member of the Scientific Committee of “International Conference on Stochastic Programming”, July 29-August 2, 2019, Trondheim (N).
 - Member of the Scientific Committee of “Computational Management Science Conference”, May 29-31, 2018, Trondheim (N).
 - Member of the Jury of “CMS Student Best Paper Prize”, Computational Management Science Conference, May 29-31, 2018 Trondheim (N).
 - Member of the Scientific Committee of “European Conference on Stochastic Optimization” Sep. 20-22, 2017, Rome.

- Member of the Scientific and Organizing Committee of “Computational Management Science Conference”, May 29-Jun. 1, 2017, Bergamo.
- Member of the Jury of “CMS Student Best Paper Prize”, Computational Management Science Conference, May 29-Jun. 1, 2017, Bergamo.
- Co-Chair of the Organizing and Scientific Committee of the Ph.D. winter school “Stochastic programming with applications in energy, logistics and finance”, Jan. 15-21, 2017, Passo del Tonale.
- Member of the Scientific Committee of EURO Mini Conference on Stochastic Programming and Energy Applications (ESPC-2014), Sep. 25-27, 2014, Paris (F).
- Member of the Organizing and Scientific Committee of “XIII International Conference on Stochastic Programming”, University of Bergamo, Jul. 6-12, 2013, Bergamo. - Member of the Organizing Committee of CARIPLO Stochastic Programming School SPS2009, University of Bergamo, Nov. 23-28, 2009, Bergamo.
- Member of the Committee *Research Council* Department of Management, Economics and Quantitative Methods, University of Bergamo, 2009/2015, 2015/2018.
- Referent for the University of Bergamo of the “Sportello Matematico per l’Industria Italiana”.
- Member of the Committee *Orientation and Tutoring* of the Faculty of Economics, University of Bergamo, mathematical area, academic years 2005/2014.

Software Skills

- Optimization: GAMS, AMPL;
- Programming: C, Fortran;
- Other: Matlab, Mathematica, PcGive, LaTeX.

Membership in Societies

- A.I.R.O. (Italian Operational Research Society);
- S.I.M.A.I (Italian Mathematical Society for Industrial and Applied Mathematics);
- A.M.A.E.S. (Italian Association for Mathematics Applied to Economics and Social Sciences);
- F.I.M.A. (Italian Federation of Applied Mathematics);
- U.M.I. (Italian Mathematical Society);
- M.O.S. (Mathematical Optimization Society);

- I.N.F.O.R.M.S. (The Institute for Operations Research and the Management Sciences);
- E.W.G.S.O. (Euro Working Group in Stochastic Optimization);
- S.P.S. (Stochastic Programming Society).

Bergamo, October 9th, 2018

Francesca Maggioni