

# Francesca Maggioni

## Curriculum Vitae

(Last updated in April 2021)

### Personal Information

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*Name and Surname:* Francesca Maggioni

*Birth:* December 20, 1980

*Nationality:* Italian

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*Scopus Author ID:* 22835919600

### Current Position

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- (Oct. 2019 – now) **Associate Professor** (Professore Associato) in Operations Research (Academic discipline MAT/09) at the Department of Management, Economics and Quantitative Methods, University of Bergamo, Italy.
- (March 2021 – now) **Deputy Director** (Vice Coordinatore) of the PhD program in Applied Economics & Management (Applied Economics curriculum), University of Pavia and Bergamo.
- (2016 – present) **Associate Editor** of the Journal: *Computational Management Science* (Springer).
- (2020 – present) **Associate Editor** of the Journal: *EURO Journal on Computational Optimization* (Springer).
- (2019 – 2022) **Elected member** and **Secretary** of the governing board of the Stochastic Programming Society “Committee on Stochastic Programming (COSP)”, <https://stoprog.org/cosp-members>.
- (2019 – 2021) **Elected member** and **Treasurer** of the “European Working Group on Stochastic Optimization (EWGSO)”, <https://www.euro-online.org/web/ewg/35/ewg-stochastic-programming-ewgsp>.

- (2018 – 2022) **National Coordinator** with P. Beraldi of *AIRO Thematic Section of Stochastic Programming*.

## Former Positions

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- (Oct. 2011 – Sept. 2019) **Assistant Professor** (Ricercatore a tempo indeterminato) in Operations Research (Academic discipline MAT/09) at the Department of Management, Economics and Quantitative Methods, University of Bergamo, Italy.
- (Oct. 2006 – Sept. 2011) **Assistant Professor** (Ricercatore a tempo indeterminato) in Mathematics (Metodi matematici dell'economia e delle scienze attuariali e finanziarie, Academic discipline SECS–S/06) at the Department of Mathematics Statistics, Computer Science and Applications “Lorenzo Mascheroni”, Faculty of Economics, University of Bergamo, Italy.
- (Nov. 2005 – Sept. 2006) **Research fellow** (Assegnista di Ricerca) at the Department of Mathematics Statistic Computer Science and Applications “Lorenzo Mascheroni”, Faculty of Economics, University of Bergamo, Italy.  
**Project title:** “Applications of stochastic programming to energy and finance”, supervisor Prof. Marida Bertocchi.

## Scientific Qualifications

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Italian scientific qualifications as **Full Professor** in:

- (Sept. 24, 2018 – Sept. 24, 2027) Operations Research (Ricerca Operativa, Academic recruitment field 01/A6, Academic discipline MAT/09).
- (Oct. 8, 2018 – Oct. 8, 2027) Mathematical Methods for Economics and Finance (Metodi Matematici dell'Economia e delle Scienze Attuariali e Finanziarie, Academic recruitment field 13/D4, Academic discipline SECS–S/06).

Italian scientific qualifications as **Associate Professor** in:

- (Mar. 30, 2017 – Mar. 30, 2023) Operations Research (Ricerca Operativa, Academic recruitment field 01/A6, Academic discipline MAT/09).
- (Apr. 5, 2017 – Apr. 5, 2023) Mathematical Methods for Economics and Finance (Metodi Matematici dell'Economia e delle Scienze Attuariali e Finanziarie, Academic recruitment field 13/D4, Academic discipline SECS–S/06).

## Elected Positions in International Scientific Boards

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- (2019 – 2022) **Elected member** and **Secretary** of the governing board of the Stochastic Programming Society “Committee on Stochastic Programming (COSP)”,  
<https://stoprog.org/cosp-members>.
- (2019 – 2021) **Elected member** and **Treasurer** of the “European Working Group on Stochastic Optimization (EWGSO)”,  
<https://www.euro-online.org/web/ewg/35/ewg-stochastic-programming-ewgsp>.
- (2018 – 2022) **National Coordinator** with Patrizia Beraldi of AIRO Thematic Section of Stochastic Programming.
- (2016 – 2018) **Elected member** and **Treasurer** of the governing board of the Stochastic Programming Society “Committee on Stochastic Programming (COSP)”,  
<https://stoprog.org/cosp-members>.
- (2016 – 2018) **Elected member** and **Secretary** of the “European Working Group on Stochastic Optimization (EWGSO)”,  
<https://www.euro-online.org/web/ewg/35/ewg-stochastic-programming-ewgsp>.

## Education

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- (Dec. 4, 2006) **Ph.D. in Pure and Applied Mathematics** at University of Milano-Bicocca, Italy.  
**Title of the thesis:** Kinematics of elastic filaments and magnetic relaxation of flux tubes.  
Supervisor: Prof. Renzo L. Ricca.
- (Sept. 18, 2003) **MSc in Mathematics** at Università Cattolica del Sacro Cuore of Brescia, Italy, mark: **Summa cum Laude**.  
**Title of the thesis:** Relazioni fra K-loop e strutture di riflessione con l'applicazione al modello di Poicaré di piano iperbolico. Supervisor: Prof. Silvia Pianta.

## Awards and Merits

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- (2000 – 2002) **Best student award**. Faculty of Mathematics, Physics and Natural Sciences, Università Cattolica del Sacro Cuore of Brescia.
- (2003 – 2006) **Full Ph.D. Scholarship** granted by the Italian Ministry of Education, University and Research for the doctoral studies.

- (Sept. 15 – 20 2008) **Best poster award**. Conference on Knots and other Entanglements in Biopolymers: Topological and Geometrical Aspects of DNA, RNA and Protein Structures, Trieste.  
**Title of the poster:** Modeling filament kinematics for nucleosome and viral spooling.
- (2009) **Progetto Giovani GNFM 2009 award** granted by the Italian group of Applied Mathematics (Fisica Matematica).  
**Title of the project:** Energy of knotted DNA filaments.
- (2010) **Best paper award**. Selection of an article 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.  
**Title of the article:** Velocity, energy and helicity of vortex knots and unknots. *Phys. Rev. E*, **82**(2), 026309–026317 (with C.F. Barenghi, S. Alamri and R.L. Ricca).
- (Nov. 13 – 16, 2011) **Interactive Poster Session award**. “INFORMS Conference” 13-16 Nov. 2011 Charlotte, North Carolina (USA), Second place winner.  
**Title of the poster:** Optimal kinematics of supercoiled filaments.
- (2011) **Research award “5 per 1000”** for the research activity carried out in the years 2008-2009-2010, sponsored by the University of Bergamo (1500 euros).
- (Oct. 14 – 17, 2012) **Interactive Poster Session award**. “INFORMS Conference” 14-17 Oct. 2012 Phoenix, Arizona (USA), Semi-finalist.  
**Title of the poster:** Modeling chromatin fibre folding for human embryonic stem cells and cancer cells.
- (2014) **Best paper award**. Selection of an article 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.  
**Title of the article:** On the groundstate energy spectrum of magnetic knots and links, *Journal of Physics A: Mathematical and Theoretical*, **47**(20), 205501–205509 (with R.L. Ricca).
- (2015) **Research award “5 per 1000”** for the research activity carried out in the years 2012-2013-2014, sponsored by the University of Bergamo (1332 euros).
- (Gen. 2016) **Best Project award** based on a selection among seven Italian Research Groups proposals. In collaboration with Centrale del Latte di Vicenza S.P.A. and Sportello Matematico per l’industria italiana.  
**Title of the project:** Potenziamiento 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.
- (Aug. 2017) **Outstanding contribution in reviewing award** for the Journal “European Journal of Operations Research”.

- (Dec. 2017) **Outstanding contribution in reviewing award** for the Journal “Computers and Operations Research”.
- (Dec. 2017) **Grant FFABR**. Fondo per il finanziamento delle attività base di ricerca. The fund has been granted by the Italian Ministry of Education (3000 euros).

## Research Interests

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Her research interests regard the following areas of investigation:

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

### **Methodological contributions:**

- 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;
- developing bounds for stochastic standard quadratic optimization;
- developing bounds for distributionally robust optimization;
- evaluating the quality of the expected value solution in stochastic programming;
- partial Benders decomposition for two-stage stochastic integer programming;
- sample complexity for multistage robust optimization;
- worst-case analysis of rolling horizon approach in stochastic programming.

The **applications** considered are:

- stochastic and robust optimization models for logistics and transportation;
- stochastic and robust optimization models in energy;
- stochastic optimization models for mobile ad-hoc network;
- stochastic optimization models for pension funds management;
- robust and distributionally robust optimization models for machine learning with applications to medicine.
- 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.

## Indicators of Scientific Production

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- SCOPUS indicators: Documents 39; Citations 417; h-index: 14;
- GOOGLE SCHOLAR global indicators: Citations 872; h-index 17; i10-index 24;
- GOOGLE SCHOLAR indicators from 2016: Citations 609; h-index 15; i10-index 19.

## List of Publications

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### Articles in International Journals with Peer-Review Process Indexed in Scopus and/or Web of Science

- [1] Maggioni, F. & Ricca, R.L. (2006) Writhing and coiling of closed filaments. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **462**, 3151–3166, ISSN: 1471-2946, doi: 10.1098/rspa.2006.1719.
- [2] 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, ISSN: 0392-4033.
- [3] Ricca, R.L. & Maggioni, F. (2008) Multiple folding and packing for DNA modeling. *Computers and Mathematics with Applications*, **55**, 1044–1053, ISSN: 0898-1221, doi: 10.1016/j.camwa.2006.12.084.
- [4] 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, ISSN: 0023-5954.
- [5] Maggioni, F., Kaut, M. & Bertazzi, L. (2009) Stochastic optimization models for a single-sink transportation problem. *Computational Management Science*, **6**(2), 251–267, ISSN: 1619-697X, doi: 10.1007/s10287-008-0086-z.
- [6] Maggioni, F., Alamri, S., Barenghi, C.F. & Ricca R.L. (2009) Kinetic energy of vortex knots and unknots. *Il Nuovo Cimento C*, **32**(1), 133–142, ISSN: 2037-4909, doi: 10.1393/ncc/i2009-10351-6.
- [7] Maggioni, F., Potra, F.A., Bertocchi, M.I. & Allevi, E. (2009) Stochastic second-order cone programming in mobile ad hoc networks. *Journal of Optimization Theory and Applications*, **143**, 309–328, ISSN: 0022-3239, doi: 10.1007/s10957-009-9561-0.
- [8] Maggioni, F. & Ricca R.L. (2009) On the groundstate energy of knotted magnetic flux tubes. *Proceeding of the Royal Society of London. Series A*, **465**(2109), 2761–2783, ISSN: 1364-5021, doi: 10.1098/rspa.2008.0536.
- [9] Maggioni, F., Bertocchi M., Vespucci M.T., Giacometti R., Innorta M. & Allevi E. (2010) A stochastic optimization model for gas retail with temperature scenarios and oil price parameters. *Ima Journal of Management Mathematics*, **21**, 149–163, ISSN: 1471-678X, doi: 10.1093/imaman/dpp011.

- [10] Maggioni, F., Alamri, S., Barenghi, C.F. & Ricca R.L. (2010) Velocity, energy, and helicity of vortex knots and unknots. *Physical Review E, Statistical, Nonlinear, and Soft Matter Physics*, **82**(2), 026309–026317, ISSN: 1539-3755, doi: 10.1103/PhysRevE.82.026309 (Selected for the September 2010 issue of *Virtual Journal of Atomic Quantum Fluids; Section: Topological excitations of quantum fluids*).
- [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, ISSN: 0254-5330, doi: 10.1007/s10479-010-0807-x.
- [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, ISSN: 0254-5330, doi: 10.1007/s10479-010-0756-4.
- [13] Maggioni, F., Potra, F. & Bertocchi, M. (2013) Optimal kinematics of a looped filament. *Journal of Optimization Theory and Applications*, **159**, 489–506, ISSN: 0022-3239, doi: 10.1007/s10957-013-0330-8.
- [14] Maggioni, F., Alamri, S., Barenghi, C.F. & Ricca R.L. (2013) Vortex knots dynamics in Euler fluids. *Procedia IUTAM*, Elsevier, **7**, 29–38, ISSN: 2210-9838, doi: 10.1016/j.piutam.2013.03.005.
- [15] Maggioni, F., Allevi, E. & Bertocchi, M. (2014) Bounds in multistage linear stochastic programming. *Journal of Optimization Theory and Applications*, **163**(1), 200–229, ISSN: 0022-3239, doi: 10.1007/s10957-013-0450-1.
- [16] Al-Baali, M., Spedicato, E.G. & Maggioni, F. (2014) Broyden’s quasi-Newton methods for a nonlinear system of equations and unconstrained optimization: a review and open problems. *Optimization, Methods and Software*, **29**(5), 937–954, ISSN: 1055-6788, doi: 10.1080/10556788.2013.856909.
- [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*, **108**, 296–305, ISSN: 1877-0428, doi: 10.1016/j.sbspro.2013.12.839.
- [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*, **108**, 47–56, ISSN: 1877-0428, doi: 10.1016/j.sbspro.2013.12.819.
- [19] Ricca, R.L. & Maggioni, F. (2014) On the groundstate energy spectrum of magnetic knots and links. *Journal of Physics A: Mathematical and Theoretical*, **47**(20), 205501–205509, ISSN: 1751-8113, doi: 10.1088/1751-8113/47/20/205501.
- [20] Maggioni, F., Perboli, G. & Tadei, R. (2014) The Multi-path traveling salesman problem with stochastic travel costs: building realistic instances for city logistics applications. *Transportation Research Procedia*. **3**, 528–536, ISSN: 2352-1465, doi: 10.1016/j.trpro.2014.10.001.
- [21] Bertazzi, L. & Maggioni, F. (2015) Solution approaches for the stochastic capacitated traveling salesmen location problem with recourse. *Journal of Optimization Theory and Applications*, **166**(1), 321–342, ISSN: 0022-3239, doi: 10.1007/s10957-014-0638-z.

- [22] Alzalg, B., Maggioni, F. & Vitali, S. (2016) Homogeneous self-dual methods for symmetric cones under uncertainty. *Far East Journal of Mathematical Sciences: FJMS*, **99**(11), 1603–1632, ISSN: 0972-0871, doi: 10.17654/MS099111603.
- [23] Maggioni, F. & Pflug, G. (2016) Bounds and approximations for multistage stochastic programs. *Siam Journal on Optimization*, **26**(1), 831–855, ISSN: 1095-7189, doi: 10.1137/140971889.
- [24] Maggioni, F., Allevi, E. & Bertocchi, M. (2016) Monotonic bounds in multistage mixed-integer stochastic programming. *Computational Management Science*, **13**(3), 423–457, ISSN: 1619-697X, doi: 10.1007/s10287-016-0254-5.
- [25] Perboli, G., Gobbato, L. & Maggioni, F. (2017) A progressive hedging method for the multi-path travelling salesman problem with stochastic travel times. *IMA Journal of Management Mathematics*, **28**(1), 65–86, ISSN: 1471-6798, doi: 10.1093/imaman/dpv024.
- [26] Maggioni, F., Potra, F.A. & Bertocchi, M. (2017) A scenario-based framework for supply planning under uncertainty: stochastic programming versus robust optimization approaches. *Computational Management Science*, **14**(5), 5–44, ISSN: 1619-6988, doi: 10.1007/s10287-016-0272-3.
- [27] Alonso-Ayuso, A. & Maggioni, F. (2017) Special issue on the 13th international conference on computational management science. *Computational Management Science*, **14**(4), 461–463, ISSN: 1619-697X, doi: 10.1007/s10287-017-0292-7.
- [28] 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, ISSN: 0377-2217, doi: 10.1016/j.ejor.2017.12.004.
- [29] Crainic, G.T., Maggioni, F., Perboli, G. & Rei, W. (2018) Reduced cost-based variable fixing in two-stage stochastic programming. *Annals of Operations Research*, 1–37 ISSN: 0254-5330, doi: 10.1007/s10479-018-2942-8.
- [30] Kabašinskas, A., Maggioni, F., Štutienė, K. & Valakevičius, E. (2019) A multistage risk-averse stochastic programming model for personal savings accrual: the evidence from Lithuania. *Annals of Operations Research*, 1–28, ISSN: 0254-5330, doi: 10.1007/s10479-018-3100-z.
- [31] Gambella, C., Maggioni, F. & Vigo, D. (2019) A stochastic programming model for a tactical solid waste management problem. *European Journal of Operational Research*, **273**(2), 684–694, ISSN: 0377-2217, doi: 10.1016/j.ejor.2018.08.005.
- [32] Maggioni, F., Cagnolari, M., Bertazzi, L. & Wallace, SW. (2019) Stochastic optimization models for a bike-sharing problem with transshipment. *European Journal of Operational Research*, **276**(1), 272–283, ISSN: 0377-2217, doi: 10.1016/j.ejor.2018.12.031.
- [33] Maggioni, F. & Pflug, G. (2019) Guaranteed bounds for general non-discrete multistage risk-averse stochastic optimization programs. *Siam Journal on Optimization*, **29**(1), 454–483, ISSN: 1095-7189, doi: 10.1137/17M1140601.



- [34] Maggioni, F., Allevi, E. & Tomasgard, A. (2019) Bounds for multi-horizon stochastic programs, *Annals of Operations Research*, doi: 10.1007/s10479-019-03244-9.
- [35] Maggioni, F., Cagnolari, M. & Bertazzi, L. (2019) The Value of the Right Distribution in Stochastic Programming with Application to a Newsvendor Problem, *Computational Management Science*, doi: 10.1007/s10287-019-00356-2.
- [36] Cavagnini, R., Hewitt, M. & Maggioni, F. (2020) Workforce production planning under uncertain learning rates *International Journal of Production Economics*, Article number 107590.
- [37] Consigli, G., Dentcheva, D. & Maggioni, F. (2020) Preface: Stochastic optimization: theory and applications: Special issue in memory of Marida Bertocchi, *Annals of Operations Research*, <https://doi.org/10.1007/s10479-020-03672-y>
- [38] Crainic, G.T., Hewitt, M., Maggioni, F. & Rei, W. (2021) Partial Benders Decomposition: General Methodology and Application to Stochastic Network Design, *Transportation Science*, 55(2), 275–552.

### **Book Chapters**

- [39] 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, 467–486.
- [40] Ricca, R.L. & Maggioni, F. (2018) Groundstate energy spectra of knots and links: magnetic versus bending energy. In *New Directions in Geometric and Applied Knot Theory*, (S. Blatt, P. Reiter and A. Schikorra eds), *OM Measure Theory*, De Gruyter, Basel ISBN: 9783110571486, 276–288.
- [41] Bertazzi, L. & Maggioni, F. (2019) Forecasting methods and optimization models for the inventory management of perishable products: the case of “La Centrale del Latte di Vicenza SpA”. In *AIRO Springer Series on Applications 2019* (M. Dell’Amico, M. Gaudio, G. Stecca eds), *A View of Operations Research Applications in Italy, 2018*, AIRO Springer Series 2.

### **Articles in Proceedings of International Conferences with Peer-Review Process Indexed in Scopus and/or Web of Science**

- [42] Maggioni, F. & Ricca, R.L. (2006) Twist and fold modelling of supercoiled filaments. *Proc. 5<sup>th</sup> Int. Conf. Aplimat 2006 Bratislava*, Slovakia, Part II, 123–130, ISBN: 809673055X; 978-809673055-1.
- [43] Maggioni, F., Wallace, S.W., Bertocchi, M. & Allevi, E. (2010) Sensitivity analysis in stochastic second order cone programming for mobile ad hoc networks. In: *Proceedings of the 6th International Conference on Sensitivity Analysis of Model Output, SAMO 2010*.

*Procedia Social and Behavioral Sciences*, **2**(5), 7704–7705, Elsevier, ISSN: 1877-0428, Milan; Italy, 19 - 22 July 2010, doi: 10.1016/j.sbspro.2010.05.188.

- [44] 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, ISBN: 9783319673080.

#### Articles in Proceedings of International Conferences with Peer-Review Process

- [45] Maggioni, F., Vespucchi, 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**, 1–10, ISSN 1827-9015, doi: 10.1685/CSC06162.
- [46] 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**(1), 2120011–2120012, doi: 10.1002/pamm.200700421.
- [47] 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**(1), 2100051–2100052. doi: 10.1002/pamm.200700522.
- [48] 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 (L. Sakalauskas, A. Tomaszewski, S.W. Wallace eds) Proceedings. Vilnius, 78–82, doi: 10.5200/stoprog.2012.14.
- [49] 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, ISSN 1849-5141, doi: 10.17535/crorr.2014.0021.
- [50] Cavagnini, R., Bertazzi, L. & Maggioni, F. (2018) A two-stage stochastic model for distribution logistics with transshipment and backordering: stochastic versus deterministic solutions. (P. Daniele and L. Scimali eds) *New Trends in Emerging Complex Real Life Problems*, AIRO Springer Series 1, **1**, 131–140, doi: 10.1007/978-3-030-00473-6-15.

#### Articles in Italian Journals or Books

- [51] Bertocchi, M., Maggioni, F., Innorta, M., Vespucchi, 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.
- [52] Bertocchi, M., Maggioni, F., Allevi, E., Vespucchi, 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., Genova ECIG, ISBN: 9788875441500, 105–116.

- [53] 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: 978-88-7534-044-5.
- [54] 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: 978-88-7534-044-5.
- [55] 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: 978-88-7534-044-5.
- [56] Maggioni, F., Bertazzi, L. & Kaut, M. (2010) Scheduling di mezzi di trasporto nel settore cementifero. *Matematica e Impresa*, Edizione 2010.
- [57] Maggioni, F. (2017) La bellezza e l'utilità della matematica: un omaggio a Marida Bertocchi. *Atti dell'Ateneo di Bergamo*, 185–196.
- [58] Maggioni, F. (2019) La programmazione non lineare. Capitolo 6 in *Strategie, Introduzione alla teoria dei giochi e delle decisioni* (C. Bertini, G. Gambarelli, I. Stach eds), Giappichelli Editore, ISBN/EAN 978-88-921-0413-6.
- [59] Maggioni, F. (2019) La programmazione stocastica. Capitolo 10 in *Strategie, Introduzione alla teoria dei giochi e delle decisioni* (C. Bertini, G. Gambarelli, I. Stach eds), Giappichelli Editore, ISBN/EAN 978-88-921-0413-6.

#### Ph.D. Thesis

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

#### Papers Under Evaluation in International Journals with Peer-Review Process

- [61] Maggioni, F., Dabbene, & Pflug, G. On the sample complexity of multistage robust convex optimization problems. (A previous version of the manuscript is available at <https://arxiv.org/abs/1611.00980>).  
**Status: under review** in *SIAM Journal on Optimization*.
- [62] Deilami Moezi, S., Bertazzi, L. & Maggioni, F. The Value of Integration of Full Container Load and Less than Container Load Shipments in Vendor-Managed Inventory Systems.  
**Status: under review** in *International Journal of Production Economics*.
- [63] Peng, S., Lisser A. & Maggioni, F. Bounds for probabilistic constrained problems. [http://www.optimization-online.org/DB\\_HTML/2018/10/6884.html](http://www.optimization-online.org/DB_HTML/2018/10/6884.html).  
**Status: under review** in *EJOR*.

- [64] Lauria, D., Consigli, G. & Maggioni, F. Optimal chance-constrained pension fund management through dynamic stochastic control.  
**Status: under review** in *OR Spectrum*.
- [65] Cavagnini, R., Bertazzi, L. & Maggioni, F. A rolling horizon approach for a multi-stage stochastic fixed-charge transportation problem with transshipment.  
**Status: under review** in *EJOR*.
- [66] Faccini, D., Maggioni, F. & Potra, F. Robust and Distributionally Robust Optimization Models for Support Vector Machine with Application to Breast Cancer and Heart Disease Recognition.  
**Status: under review**.
- [67] Bomze, I., Gabl, M., Maggioni, F. & Pflug, G. Two-stage stochastic standard quadratic optimization.  
**Status: under review** in *EJOR*.

### Work in Progress

- [68] Cavagnini, R., Bertazzi, L. & Maggioni, F. & Hewitt, M., A two-stage stochastic optimization model for the Bike sharing allocation and rebalancing problem.
- [69] Bertazzi, L., Maggioni, F., Meisel, S. & Powell, WB. Analysis of policies in an energy storage problem with stochastic loads.
- [70] Maggioni, F. & Cavagnini, R. Optimization driven monotonic bounds for stochastic programs.
- [71] Filippi, C. Maggioni, F. & Speranza, M.G. Stochastic shortest path: a review and open problems.
- [72] Cavagnini, R. Crainic, T., Maggioni, F. & Rei, W. The multi-commodity two-echelon vehicle routing problem with time windows and stochastic travel times.
- [73] Dentcheva, D. & Maggioni, F. Optimal Scenario Tree Reduction via Stochastic Dominance.
- [74] Bayraksan, G., Maggioni, F., Faccini, D. & Yang, A. Bounds for Multistage Mixed-Integer Distributionally Robust Optimization.

### Editorial Activities

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- (2016 – present) **Associate Editor** of the Journal: *Computational Management Science* (Springer).
- (2020 – present) **Associate Editor** of the Journal: *EURO Journal on Computational Optimization* (Springer).

- (2019 – present) **Editor** of *Stochastic Programming Society Newsletter*.
- (2016 – 2017) **Guest Editor** of the special issue of *Computational Management Science* associated with the conference Computational Management Science (CMS2016), Salamanca (Spain).
- (2017 – present) **Guest Editor** of the special issue of *Annals of Operations Research* (Springer) “Stochastic Optimization: Theory and Applications, in memory of Marida Bertocchi”.
- (2019 – present) **Guest Editor** of the special issue of *Computational Management Science* (Springer) “ Optimization for Management Science: ICSP2019 conference”.
- (2006 – present) **Referee** for the following 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, INFORMS Journal on Optimization, IIE Transactions, IMA Journal of Management Mathematics, Annals of Operations Research, Computers & Operations Research, Operations Research, Operations Research Letters, Operational Research, AMS Reviewer, Transportation Research Part E: Logistics and Transportation Review, Mathematics of Operations Research.

## Conference Talks, Invited Seminars and Short Courses

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### Conference Talks

1. (Oct. 2 2003) *The K-loop associated to the hyperbolic plane and its automorphisms*, Terza Giornata bolognese sui cappi, Bologna (I).
2. (Dec. 4 2003) *The hyperbolic plane: from the structure of reflection to the K-loop*, Roma (I).
3. (Aug. 1 2005) *Twist and fold of filaments in nature*, Isaac Newton Institute for Mathematical Sciences, Cambridge (UK).
4. (Jan. 31 2006) *Twist and fold modeling for DNA supercoiling*, Incontro su Metodi Teorici in biologia, Milan (I).
5. (Sept. 11 2006) *A stochastic optimization model for gas sale company*, XXXVII International Conference AIRO 2006, Cesena (I).
6. (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) (**invited talk**).

7. (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).
8. (July 20 2007) *Multiple folding and packing in DNA modeling*, ICIAM07 6<sup>th</sup> International Conference on Industrial and Applied Mathematics, Zurich (CH).
9. (Aug. 27 2007) *A stochastic optimization model for gas retailer with temperature scenarios and oil prices parameters*, 11th Conference on Stochastic Programming, Vienna (A).
10. (Sept. 5 2007) *A stochastic optimization model for gas retailer with temperature scenarios and oil prices parameters*, XXXI Convegno Amases, Lecce (I).
11. (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).
12. (May 29 2008) *A single-sink transportation problem: stochastic optimization models*, AP-MOD2008, International Conference on Applied Mathematics Programming and Modelling, Bratislava (CS).
13. (Sept. 1 2008) *Stochastic second-order cone programming in mobile ad-hoc networks*, XXXII Convegno Amases, Trento (I).
14. (Sept. 5 2008) *Stochastic second-order cone programming in mobile ad-hoc networks*, CARIPLO Workshop on Numerical Linear and Nonlinear Stochastic Programming, Edinburgh (UK).
15. (Sept. 10 2008) *A single-sink transportation problem: stochastic optimization models*, XXXIX Annual Conference of Italian Operational Research Society, Ischia (I).
16. (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).
17. (Oct. 11 2008) *New results on vortex knots and unknots*, The Eighth International Seminar on Geometry Continua and Microstructures 2008, Catania (I) (**invited talk**).
18. (Jan. 22 2009) *Stochastic second-order cone programming in mobile ad-hoc networks*, Third FIMA International Conference, Gressoney (I).
19. (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).
20. (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) (**invited talk**).

21. (Sept. 17 2009) *On vortex knots and unknots*, Mathematical Models of Quantum Fluids, Geometrical Analytical and Computational Aspects, Verona (I) (**invited talk**).
22. (July 12 2010) *Stochastic second-order cone programming in mobile ad hoc networks*, EURO XXIV, Lisbon (P).
23. (July 21 2010) *Sensitivity analysis in stochastic second-order cone programming for mobile ad-hoc networks*, SAMO 2010, Bocconi University, Milan (I).
24. (Aug. 20 2010) *Analyzing the quality of the expected value solution in stochastic programming* XII International Conference on Stochastic Programming, Halifax, Nova Scotia (CDN).
25. (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).
26. (Apr. 28 2011) *The value of information in multistage linear stochastic programming*, 8th International Conference on Computational Management Science, University of Neuchatel (CH).
27. (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).
28. (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).
29. (Sept. 7 2011) *The value of information in multistage linear stochastic programming: a case study*, AIRO 2011 Conference, Brescia (I) (**invited talk**).
30. (Nov. 13 2011) *A stochastic second order cone model for a single-facility location problem*, INFORMS 2011 Conference, Charlotte (USA).
31. (Nov. 15 2011) *Optimal kinematics of supercoiled filaments* Interactive Poster Session, INFORMS 2011 Conference, Charlotte, (NC) USA (Second Place Winner: Interactive Poster Session).
32. (Mar. 20 2012) *A stochastic model for daily coordination of pumped storage hydro plants and wind power plants*, FIWEM1 Brescia (I).
33. (Mar. 29 2012) *Velocity, energy and helicity of vortex knots and unknots*, Vortices and solitons in classical and quantum fluids, CIRM Maiseille (F) (**invited plenary talk**).
34. (Apr. 17 2012) *A stochastic second order cone model for a stochastic capacitated traveling salesmen location problem with recourse*, Computational Management Science Conference (CMS), London (UK).

35. (June 5 2012) *Measures of information in multistage stochastic programming*, Italian Spanish Workshop on Optimization, Politecnico di Milano (I) (**invited plenary talk**).
36. (June 26 2012) *Optimal kinematics of supercoiled filaments*, SIMAI 2012 Politecnico di Torino (I).
37. (July 5 2012) *Measures of information in multistage stochastic programming*, Special Workshop of Stochastic Programming Community (STOPROG-2012) Stochastic Programming for Implementation, Neringa (LT).
38. (July 10 2012) *A stochastic second-order cone model for a stochastic capacitated traveling salesmen location problem with recourse*, EURO2012, Vilnius (LT).
39. (July 24 2012) *Velocity, energy and helicity of vortex knots and unknots*, Topological Fluid Dynamics (IUTAM Symposium), Isaac Newton Institute for Mathematical Sciences, Cambridge (UK).
40. (Aug. 23 2012) *Measures of information in multistage linear stochastic programming*, ISMP2012 Berlin (D).
41. (Sept. 3 2012) *Modeling chromatin fibre folding for human embryonic stem cells and cancer cells*, Topological Aspects of DNA Function and Protein Folding, Isaac Newton Institute for Mathematical Sciences, Cambridge (UK).
42. (Sept. 7 2012) *A stochastic second-order cone model for a capacitated traveling salesmen location problem*, AIRO 2012, Vietri sul Mare, Salerno (I).
43. (Oct. 16 2012) *Modeling chromatin fibre folding for human embryonic stem cells and cancer cells*, INFORMS 2012 Conference, Phoenix (USA).
44. (Jan. 31 2013) *A stochastic model for the capacitated traveling salesmen location problem*, AIRO Winter 2013, Champoluc (I).
45. (Apr. 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) (**invited plenary talk**).
46. (June 10-17 2013) *Bounds and approximations in multistage stochastic programming*, 59th Workshop Nonlinear Optimization: a Bridge from Theory to Applications, Erice (I).
47. (July 1-4 2013) *Optimal kinematics of supercoiling*, EURO-INFORMS Conference, Rome (I).
48. (July 8 2013) *Bounds in multistage stochastic programs*, ICSP2013, Bergamo (I).
49. (Aug. 1 2013) *Bounds in multistage stochastic programs*, ICOPT, Lisbon (P).
50. (Mar. 23 – 28 2014) *Bounds in multistage stochastic programming*. Phd Winter school: Stochastic programming with applications in energy, finance and insurance, Bad Hofgastein (A) (**invited plenary talk**).



51. (Apr. 9 2014) *Bounds for stochastic multistage transportation problems*, APMOD, Warwick (UK).
52. (June 16 2014) *Vortex knots and unknots in Euler Fluids*, ESF Exploratory Workshop, Glasgow (UK) (**invited talk**).
53. (July 14 2014) *Progressive hedging method for the multi-path traveling salesman problem with stochastic travel times*, IFORS Conference, Barcelona (S).
54. (Sept. 2 2014) *A progressive hedging method for the multi-path travelling salesman problem with stochastic travel times*, AIRO conference, Como (I).
55. (Sept. 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 (F) (**invited talk**).
56. (Jan. 26 2015) *Stochastic versus robust optimization for a supply transportation problem*, Airo Winter Conference, Champoluc, Aosta (I).
57. (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).
58. (July 12 – 19 2015) *Bounds and approximations for stochastic multistage programs*, 22nd International Symposium on Mathematical Programming, Pittsburgh (USA).
59. (Sept. 1 – 4 2015) *Monotonic bounds and approximations in multistage stochastic programs*, OR 2015, Vienna (A) (**invited talk**).
60. (Sept. 7 – 10 2015) *A transportation problem under uncertainty: stochastic versus robust optimization solution approaches*, AIRO 2015, Pisa (I).
61. (Nov. 1 – 4 2015) *Stochastic programming versus dynamic programming in a procurement transportation problem*, INFORMS annual meeting, Philadelphia (USA).
62. (Apr. 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**).
63. (June 2 2016) *Worst-case analysis of rolling horizon approaches for a stochastic multistage fixed charge transportation problem*, Computational Management Science Conference, Salamanca (S).
64. (June 24 – July 2 2016) *Bounding multistage risk-averse stochastic programs*, International Conference on Stochastic Programming ICSP2016, Buzios, Rio de Janeiro (BR).
65. (Aug. 28 – Sept. 2 2016) *Worst-case analysis of rolling horizon approach in multi-stage stochastic programming: a transportation procurement problem*, The first Georgia Tech/University of Bergamo Optimization Workshop, Atlanta (USA) (**invited talk**).

66. (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**).
67. (Sept. 6 – 9 2016) *Worst-case analysis of rolling horizon approaches for a stochastic multistage fixed charge transportation problem*, AIRO Conference, Trieste (I).
68. (Nov. 13 – 16 2016) *On the sample complexity of multistage robust convex optimization problems*, INFORMS Conference, Nashville, Tennessee (USA).
69. (Jan. 15 – 21 2017) *Bounds and approximations in stochastic and robust optimization*, PhD Winter School in Stochastic Programming with applications in energy, logistics and finance, Passo del Tonale (I) (**invited plenary talk**).
70. (May 29 – June 1 2017) *Bounding approaches for multistage stochastic and robust optimization problems*, Computational Management Science Conference, Bergamo (I) (**invited plenary talk**).
71. (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) (**invited talk**).
72. (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).
73. (Sept. 20 – 22 2017) *Guaranteed bounds for multistage stochastic optimization programs through stochastic dominance*, European Conference on Stochastic Optimization, Rome (I).
74. (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) (**invited plenary talk**).
75. (May 16 – 18 2018) *Distributionally robust chance-constrained dynamic pension fund management*, 61<sup>st</sup> Meeting of EURO Working Group for Commodities and Financial Modelling, Kaunas (LT) (**invited talk**).
76. (May 29 – 31 2018) *Bounds for probabilistic constrained problems*, International Conference on Computational Management Science, Trondheim (N).
77. (June 3 – 8 2018) *A two-stage stochastic optimization model for the bike sharing allocation and rebalancing problem*, Odysseus 2018 Conference, Cagliari (I).
78. (July 1 – 6 2018) *Bounds in probabilistic constrained problems*, 23<sup>th</sup> International Symposium on Mathematical Programming, Bordeaux (F) (**invited talk**).

79. (July 8 – 11 2018) *Guaranteed bounds for general non-discrete multistage risk-averse stochastic optimization programs*, 29<sup>th</sup> European Conference on Operational Research, Valencia (S).
80. (Aug. 18 – 25 2018) *Bounds in stochastic programs*, Workshop New directions in Stochastic Optimisation, Mathematisches Forschungsinstitut Oberwolfach (DE) (**invited plenary talk**).
81. (Sept. 10 – 13 2018) *Bounds for probabilistic constrained problems*, International Conference on Optimization and Decision Science, Taormina (I).
82. (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).
83. (Dec. 20 – 21 2018) *Sampling methods for multistage robust convex optimization problems*, Conference in Optimization, Game Theory, and Data Analysis, University of Vienna (A) (**invited talk**).
84. (Mar. 3 – 8 2019) *Stochastic programming and bounding*, Winter school Energy market modelling, Kvitfjell (N) (**invited plenary talk**).
85. (Mar. 27 – 20 2019) *Sampling methods for multistage robust convex optimization problems*, Computational Management Science CMS 2019 Conference, Chemnitz, University of Technology (D).
86. (Jul. 29 – Aug. 2 2019) *Bounding Multistage Optimization Programs Under Uncertainty*, International Conference on Stochastic Optimization ICSP2019, Trondheim, NTNU (N) (**semi-plenary talk**).
87. (Sept. 4–7 2019) *Sampling Methods for Multistage Robust Convex Optimization Problems*, Optimization and Decision Science Conference ODS2019, XLIX Annual meeting of AIRO, Genova (I).
88. (Sept. 19 2019) *Bounding and Sampling in Optimization under Uncertainty*, STOPTIMA: Stochastic Optimization, Modelling and Applications, Brno (CZ) (**invited plenary talk**).
89. (Sept. 27 2019) *Bounding multistage stochastic programs*, Workshop Statistics, Risk & Optimization in honor of Prof. Georg Ch. Pflug, Vienna (A) (**invited plenary talk**).
90. (Nov. 7-13 2020) *Multistage Robust Convex Optimization Problems: A Sampling Based Approach*, Virtual 2020 INFORMS Annual Meeting.
91. (Nov. 19 2020) *Multistage Robust Convex Optimization Problems: A Sampling Based Approach*, ODS 2020 - International Conference on Optimization and Decision Science.
92. (Sept 2021) *Multistage robust convex optimization problems: A sampling based approach*, Workshop: Optimization under Uncertainty, Montreal (CAN) (**invited plenary talk**).

## Invited Seminars

93. (Nov. 25 2004) *Measure of complexity of spaced curves*, Università Cattolica del Sacro Cuore di Brescia (I).
94. (Jan. 24 2007) *Models of supercoiling: from DNA to...*, Università Cattolica del Sacro Cuore di Brescia (I).
95. (May 4 2007) *Introduction to stochastic programming*, University of Brescia (I).
96. (June 12 2007) *Stochastic optimization models for gas sale company*, Molde University College, Norwegian school of Logistic (N).
97. (Apr. 4 2008) *Multiple folding and packing in DNA modeling*, School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK).
98. (Apr. 15 2009) *On the groundstate energy of magnetic knots*, School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK).
99. (Apr. 27 2009) *Energia minima di nodi magnetici rilassati*, Università Cattolica del Sacro Cuore di Brescia (I).
100. (Dec. 8 2009) *On the groundstate energy of magnetic knots*, Physics Department, Lancaster University, Lancaster (UK).
101. (Sept. 5 2011) *Ottimizzazione stocastica: decidere in condizioni di incertezza*, Summer School San Pellegrino Terme (I).
102. (Oct. 27 2011) *Modelli di ottimizzazione per cinematiche di filamenti superavvolti*, “Interdepartmental seminar MAT-STAT”, University of Bergamo (I).
103. (Nov. 4 2011) *Generazione scenari in Ottimizzazione Stocastica: un’introduzione*, University of Brescia (I).
104. (Mar. 2 2012) *Introduzione all’Ottimizzazione Stocastica*, Università Cattolica del Sacro Cuore di Brescia (I).
105. (Oct. 24 2012) *Vortex knots dynamics in Euler fluids and optimal kinematics of elastic filaments*, UEA, Norwich (UK).
106. (Oct. 30 2012) *Optimal kinematics of supercoiled filaments*, Isaac Newton Institute for Mathematical Sciences, Cambridge (UK).
107. (Nov. 5 2012) *Bounds for stochastic optimization programs*, Department of Statistics and Operations Research, University of Vienna (A).
108. (Apr. 4 2013) *Bounds and approximations in multistage stochastic programming*, Politecnico di Torino (I).
109. (Oct. 18 2013) *Bounds and approximations in multistage stochastic programs with application to logistics and transportation*, CIRRELT, Montreal (CDN).

110. (Oct. 17 2014) *Monotonic bounds for a stochastic multistage mixed-integer supply transportation problem*, CIRRELT, Montreal (CDN).
111. (May 21 2015) *Bounds and approximations for stochastic multistage programs*, University of Salerno (I).
112. (October 30 2015) *The generalized skeleton solution: a new measure of the quality of the deterministic solution in stochastic programming*, CIRRELT, Montreal (CDN).
113. (Dec. 17 2015) *Monotonic bounds and approximation in multistage stochastic programs*, Department of Statistics and Operations Research, University of Vienna (A).
114. (May 12 2016) *Bounds and approximations in stochastic programming*, Department of Electrical, Electronic, and Information Engineering Guglielmo Marconi, University of Bologna (I).
115. (May 17 2016) *L'energia minima dei nodi*, Università Cattolica del Sacro Cuore di Brescia (I).
116. (Apr. 5 2017) *La bellezza e l'utilità della matematica, Omaggio a Marida Bertocchi*, Ateneo di Scienze Lettere ed Arti di Bergamo (I).
117. (Apr. 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).
118. (Mar. 31 – Apr. 14 2019), *Bounding Multistage Stochastic Programs*, Department of Mathematical Sciences, Stevens Institute of Technology (USA).
119. (Feb. 18 2020) *Blockchain e Bitcoin: un'introduzione*, Comunità Montana Valle Seriana.
120. (June 2021) *An interpretable machine learning based mortality prediction model for COVID-19 in the area of Val Camonica, Italy*, Ateneo di Scienze Lettere ed Arti di Bergamo (I).

### Invited Short Courses

121. (Nov. 17 – 23 2013) **Master Course:** *Introduction to stochastic programming and its applications to energy and logistics*, KTU, Kaunas (LT).
122. (Mar. 10 – 15 2014) **PhD Course:** *Stochastic programming and its applications to Networks, energy and logistics problems*, Politecnico di Torino (I).

### Research Periods Abroad

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- (May 16 – June 25 2007) **Visiting researcher** at Molde University College, Norwegian school of Logistic (N).  
**Research collaboration with:** Dr. Michal Kaut and Prof. Stein W. Wallace.

- (Mar. 28 – Apr. 8 2008) **Visiting researcher** at School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK).  
**Research collaboration with:** Prof. Carlo F. Barenghi and Dr. Sultan Alamri.
- (Apr. 14 – 19 2009) **Visiting researcher** at School of Mathematics and Statistics, University of Newcastle, Newcastle upon Tyne (UK).  
**Research collaboration with:** Prof. Carlo F. Barenghi and Dr. Sultan Alamri.
- (Mar. 8 – 10 2010) **Visiting researcher** at Oxford Centre for Collaborative Applied Mathematics, Oxford (UK).  
**Research collaboration with:** Prof. Alain Goriely.
- (Nov. 3 2009 – May 2010) **Visiting researcher** at Department of Management Science, Lancaster University Management School, Lancaster (UK).  
**Research collaboration with:** Prof. Stein W. Wallace.
- (Nov. 17 – 26 2011) **Visiting researcher** at Department of Mathematics & Statistics, University of Maryland, (USA).  
**Research collaboration with:** Prof. Florian A. Potra.
- (Sept. 1 – Nov. 30 2012) **Visiting researcher** at 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) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Georg Ch. Pflug.
- (Oct. 14 – 21 2013 ) **Visiting researcher** at Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise (CIRRELT), la Logistique et le Transport, Montreal (CND).  
**Research collaboration with:** Prof. Theodor G. Crainic and Prof. Walter Rei.
- (Oct. 12 – 20 2014 ) **Visiting researcher** at CIRRELT Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise, la Logistique et le Transport (CIRRELT), Montreal (CND).  
**Research collaboration with:** Prof. Theodor G. Crainic and Prof. Walter Rei.
- (Dec. 1 – 3 2014) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Georg Ch. Pflug.
- (Oct. 25 – 31 2015 ) **Visiting researcher** at Centre Interuniversitaire de Recherche sur les Reseaux d’Entreprise (CIRRELT), la Logistique et le Transport, Montreal (CND).  
**Research collaboration with:** Prof. Theodor G. Crainic and Prof. Walter Rei.
- (Dec. 13 – 20 2015) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Georg Ch. Pflug.

- (Apr. 19 – 21 2017) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Georg Ch. Pflug.
- (Nov. 15 – 29 2017) **Visiting researcher** at Laboratoire de Recherche en Informatique (LRI), University of Paris Sud, (F).  
**Research collaboration with:** Prof. Abdel Lisser.
- (Feb. 15 – 20 2018) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Georg Ch. Pflug.
- (Jul. 11 – 14 2018) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Georg Ch. Pflug.
- (Jan. 7 – 12 2019) **Visiting researcher** at Department of Statistics and Operations Research, University of Vienna (A).  
**Research collaboration with:** Prof. Immanuel Bomze and Prof. Georg Ch. Pflug.
- (Feb. 12 – Mar. 3 2019) **Visiting researcher** at Laboratoire de Recherche en Informatique (LRI), University of Paris Sud, (F).  
**Research collaboration with:** Prof. Abdel Lisser.
- (Mar. 31 – Apr. 14 2019) **Visiting researcher** at Department of Mathematical Sciences, Stevens Institute of Technology (USA).  
**Research collaboration with:** Prof. Darinka Dentcheva.

## Research Projects and Grants

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- **Member** of the project 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.
- **Principal Investigator** of the research project granted by the Italian group of mathematical physics “Progetto Giovani GNFM 2009”: “Energy of knotted DNA filaments”, 3000 euros.
- **Member** of the project 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.
- **Member** of the project EN17 PROJECT – Accordo Quadro, Regione Lombardia: “Metodi di integrazione delle fonti energetiche rinnovabili e monitoraggio satellitare dell’impatto ambientale”; coordinator A. Fassó, CUP F11J10000200002, 2011-2012, role: researcher, 856000 euros.

- **Research fellowship** for a visiting period (September - December 2012) at Isaac Newton Institute for Mathematical Sciences, Cambridge (UK) to attend the program “Topological Dynamics in the Physical and Biological Sciences” founded by the project ”FYRE - Fostering Young REsearchers project”, Bando Fondazione Cariplo “Promuovere la formazione di capitale umano di eccellenza” 5000 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+ (Italian evaluation) and A (French evaluation) but was not funded due to budget limitations.
- **Member** of the project 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.
- **Principal Investigator** of the GNCS Project to participate to conferences abroad. The participation to the “22th International Symposium on Mathematical Programming ISMP (11-17 July 2015, Pittsburgh) has been granted by GNCS (INDAM), 700 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 (Italian evaluation) but was not funded due to budget limitations.
- **Principal Investigator** of the Grant FFABR: Fondo per il finanziamento delle attività base di ricerca, 2017, 3000 euros.
- **Principal Investigator** of the GNCS Project to participate to conferences abroad. The participation to the “4th Conference on Optimization Methods and Software (16-20 December 2017, University of Havana, Cuba) has been granted by GNCS (INDAM), 1200 euros.
- **Principal investigator** of PRIN2017 Sustainable URban Freight transportatIoN and LOgistics: OPTimization under uncertainty (SURFIN’LOOP), Young action line. The proposal has been admitted to the second evaluation phase and received positive evaluation but was not funded.
- **Principal Investigator** of the GNCS Project to participate to conferences abroad. The participation to the “23rd International Symposium on Mathematical Programming ISMP (1-8 July 2018, Bordeaux) has been granted by GNCS (INDAM), 600 euros.
- **Principal Investigator** of the STaRs (Supporting Talented Researchers) Outgoing Visiting Professor project 2018 “Chance constrained Games” granted by the University of Bergamo to visit the Laboratoire de Recherche en Informatique (LRI) University of Paris Sud (F) in the period Feb. 17 - March 3 2019. The project has been granted by the University of Bergamo, 2000 euros.



- **Principal Investigator** of the GNCS Project to participate to conferences abroad. The participation to the “XV International Conference on Stochastic Programming ICSP (29 July - Aug. 2 2019, Trondheim) has been granted by GNCS (INDAM), 600 euros.
- **Principal Investigator** of the STaRs (Supporting Talented Researchers) Outgoing Visiting Professor project 2019 “Risk-averse optimization using stochastic orders, distributional constraints, risk measures, and bounding techniques” granted by the University of Bergamo to visit the Department of Mathematical Sciences, Stevens Institute of Technology (USA) in the period March 31 - April 14 2019. The project has been granted by the University of Bergamo, 2000 euros.
- **Principal investigator** of the following annual research projects (Fondi di Ateneo ex 60%) granted by the University of Bergamo:
  - University Grant 2007: “Minimizzazione del funzionale dell’energia elastica di un filamento superavvolto. Applicazioni al DNA”, 3970 euros.
  - University Grant 2008: “Rilassamento magnetico mediante meccanismi STF”, 4380 euros.
  - University Grant 2009: “L’energia di configurazioni annodate in applicazioni biologiche e fluidi ideali”, 3979 euros.
  - University Grant 2010: “Misure di valutazione della soluzione deterministica in ottimizzazione stocastica e applicazioni”, 3966 euros.
  - University Grant 2011: “Cinematiche ottime di superavvolgimento di filamenti di DNA”, 7164 euros.
  - University Grant 2013 “Metodi di ottimizzazione per la gestione dell’incertezza in problemi di trasporto e logistica”, 2891 euros.
  - University Grant 2014 “Measuring uncertainty in logistics and transportation”, 2350 euros.
  - University Grant 2015 “Partial Benders decomposition strategies for problems in transportations and logistics”, 6424 euros.
  - University Grant 2016 “Bounds and decomposition methods in stochastic programming”, 4739 euros.
  - University Grant 2017 “Bounding multistage stochastic optimization programs: the case of infinite risk-averse, multi-horizon and chance-constrained problems”, 5105 euros.
  - University Grant 2018 “Bounding multistage distributionally robust optimization problems”, 4661 euros.
  - University Grant 2019 “Sampling methods for multistage robust convex optimization problems”, 4719 euros.
  - University Grant 2020 “ Bounds for Two-stage Stochastic Optimization Standard Quadratic Programs with Applications”,

- University Grant 2021 “Distributionally Robust Optimization for Non Linear Support Vector Machine with Applications”.

## Consultancy Activities

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- **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.
- **Contract for consultancy (Principal Investigator)** funded by IMS Technologies Group S.p.a. to deliver the course “Introduction to Operations Research for Industries” (2019).

## Funds Received for Hosting Foreign Researches

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- Responsibility of research funds granted by the University of Bergamo for supporting visiting periods and seminars of the following international professors at the Department of Management, Economics and Quantitative Methods of the University of Bergamo:  
F.A. Potra, A. Lisser, G.Ch. Pflug, M. Hewitt, I. Bomze, S. Meisel, D. Dentcheva, M.E. Bruni, G. Bayraksan, G. Perboli.

## Organization of Conferences, Streams and Sessions

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### - Webinar Series Organizer:

- (summer 2020) Organizer with COSP of the Virtual Seminar Series “Decision Making in an Uncertain World” <https://www.stoprog.org/sps-virtual-seminar-series>.

### - Mini-symposium Organizer:

- (July 29 – Aug. 2 2019) Bounds and approximations in optimization under uncertainty, ICSP 2019, Trondheim (N).
- (Jul. 1 – 3 2020) Solution Methods for Uncertain Multistage Decision Problems, ECSO-CMS 2020, Venice (I).
- (Jul. 1 – 3 2020) Interfaces between Machine Learning and Stochastic Programming, ECSO-CMS 2020, Venice (I).

### - Invited Sessions Organizer:

- (July 1 – 4 2013) Nonlinear optimization in mathematical biology, EURO-INFORMS Conference, Rome (I).
- (Apr. 9 – 11 2014) Uncertainty in logistics and transportation, International Conference on Applied Mathematical Optimization and Modelling APMOD, Warwick (UK).
- (Sept. 24 – 26 2014) Stochastic programming in logistics and transportation, EURO Mini Conference on Stochastic Programming, Paris (F).
- (25 June – 1 July 2016) Bounds and decomposition methods in stochastic programming, International Conference on Stochastic Optimization, ICSP2016 Buzios (B).
- (Sept. 6 – 9 2016) Stochastic programming in logistics (with L. Bertazzi) AIRO Conference Trieste (I).
- (29 May 1 – June 2017) Uncertainty in logistics and transportation, CMS Conference Bergamo (I).
- (Sept. 4 – 7, 2017) Stochastic programming, ODS2017 International Conference on Optimization and Decision Science, XLVII Annual Meeting of AIRO Sorrento (I).
- (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).
- (May 29 – 31 2018) Bounds and approximations in stochastic programming, Computational Management Science Conference, Trondheim (N).
- (May 29 – 31 2018) Optimization under uncertainty in logistics and transportation, Computational Management Science Conference, Trondheim (N).

- (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).
  - (Sept. 10 – 13 2018) Optimization under uncertainty, ODS2018 International Conference on Optimization and Decision Science, XLVIII Annual Meeting of AIRO Taormina (I).
  - (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).
  - (June 23 – 26 2019) Stochastic orders in financial applications, EURO 2019 Conference, Dublin (IRL).
  - (June 23 – 26 2019) Optimization under uncertainty: theory and applications, EURO 2019 Conference, Dublin (IRL).
  - (Sept. 4 – 7 2019) Optimization under uncertainty and applications, ODS2019 International Conference on Optimization and Decision Science, XLIX Annual Meeting of AIRO Geonova (I).
  - (Nov. 19 2020) Optimization Under Uncertainty, ODS2020 - International Conference on Optimization and Decision Science, online (I).
  - (Jul. 2022) Advances in Stochastic Programming, ECSO-CMS 2020, Venice (I).
- Invited Streams Organizer:**
- Chair of the Stream “Stochastic Models for Service Operations”, IFORS Conference, Jul. 13-18, 2014, Barcelona (S).
  - Chair (with M. Kopa) of the Stream: “Stochastic and Robust Optimization”, 29 European Conference on Operational Research, Jul. 8-11, 2018, Valencia (S).
  - Chair (with M. Kopa) of the Stream “Stochastic and Robust Optimization”, 30 European Conference on Operational Research, June 23-26, 2019, Dublin (IRL).
  - Chair (with M. Kopa and S. Rebennack) of the Stream “Stochastic and Robust Optimization”, 31 European Conference on Operational Research, July 11-14, 2021, Athens (GR).
  - Chair (with G. Bayraksan and P. Richtarik) of the Stream “Stochastic Optimization”, 24th International Symposium on Mathematical Programming (ISMP), August 15-20, 2022, Beijing, China.
- Member of the Organizing Committee** of “CARIPLo Stochastic Programming School SPS2009”, University of Bergamo, Nov. 23-28, 2009, Bergamo (I).
- Member of the Organizing and Scientific Committee** of “XIII International Conference on Stochastic Programming”, University of Bergamo, Jul. 6-12, 2013, Bergamo (I).

- **Member of the Scientific Committee** of EURO Mini Conference on “Stochastic Programming and Energy Applications” (ESPC-2014), Sep. 25-27, 2014, Paris (F).
- **Chair of the Organizing and Scientific Committee** (with A. Tomaszgard) of the Ph.D. winter school “Stochastic programming with applications in energy, logistics and finance”, Jan. 15-21, 2017, Passo del Tonale (I).
- **Member of the Scientific and Organizing Committee** of “Computational Management Science Conference”, May 29-Jun. 1, 2017, Bergamo (I).
- **Member of the Jury** of “CMS Student Best Paper Prize”, Computational Management Science Conference, May 29-Jun. 1, 2017, Bergamo (I).
- **Member of the Scientific Committee** of “European Conference on Stochastic Optimization” Sep. 20-22, 2017, Rome (I).
- **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 Jury** of “CMS Student Best Paper Prize”, Computational Management Science Conference, March 27-29, 2019 Chemnitz (D).
- **Member of the Scientific Committee** of “International Conference on Stochastic Programming”, July 29-August 2, 2019, Trondheim (N).
- **Member of the Scientific Committee** of “Joint 3rd European Conference on Stochastic Optimization and 17th Computational Management Science Conference”, July 1-3, 2022, Venice (I).
- **Member of the Jury** of “CMS Student Best Paper Prize”, Joint 3rd European Conference on Stochastic Optimization and 17th Computational Management Science Conference”, July 1-3, 2022, Venice (I).
- **Member of the Jury** of “Tucker Prize”, Mathematical Optimization Society.

## Academic Services: Membership to Local Committees

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- **Reference person** for the Erasmus International Exchange Program of the University of Bergamo with Kaunas University of Technology (KTU) Lithuania (2015 – present).
- **Reference person** for the orientation in the compilation of the study plans for Bachelor’s degrees programs (mathematical area) of the Department of Management, Economics and Quantitative Methods, University of Bergamo.

- **Reference person** for preliminary examination of student practices (mathematical area) for the Department of Management, Economics and Quantitative Methods, University of Bergamo.
- **Reference person** of the adjunct professors of the Faculty of Mathematics, Physics and Natural Sciences of Università Cattolica del Sacro Cuore of Brescia (Jan. 2019 – present).
- **Member** of the Departmental Research Committee (Consiglio della Ricerca) for the Department of Management, Economics and Quantitative Methods, University of Bergamo 2009/2015, 2015/2018.
- **Reference person** for the University of Bergamo of the “Sportello Matematico per l’Industria Italiana” (May 2015 – present).
- **Reference person** for the organization of Departmental seminars (Statistics and Mathematics areas), at the Department of Management, Economics and Quantitative Methods, University of Bergamo (until 2020).
- **Member** of the Committee *Orientation and Tutoring* (Orientamento e Tutorato) of the Faculty of Economics, University of Bergamo, mathematical area, academic years 2005/2014.
- **Reference person** for the Department of Management, Economics and Quantitative Methods of “INdAM - Istituto Nazionale di Alta Matematica Francesco Severi” (Director of the Research Unit of Bergamo Prof. Luca Brandolini).

## Teaching

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### Bachelor’s Degree Programs

- **Lecturer** (Professore) of the course *Fundamentals and teaching of geometry and laboratory of fundamentals and teaching of geometry* (Fondamenti e didattica della geometria e laboratorio di Fondamenti e didattica della geometria, 40 hours, in Italian), Corsi speciali abilitanti Silsis, sections of Bergamo and Brescia, academic year 2006/2007.
- **Lecturer** (Professore) of the course *Mathematical Methods for Economics and Finance* (Metodi Matematici per L’Economia e la Finanza, 9 CFU, 90 hours, in Italian, Laurea triennale in informatica e comunicazione per la finanza e l’impresa), Faculty of Economics, University of Bergamo, academic years 2007/2008, 2008/2009.
- **Lecturer** (Professore) of the course *OFA of Mathematics* (Obblighi formativi aggiuntivi di Matematica, 48 hours, in Italian, Laurea Triennale in Economia Aziendale), Faculty of Economics, Treviglio, branch of the University of Bergamo, academic year 2009/2010.
- **Lecturer** (Professore) of the course *OFA of Mathematics* (Obblighi formativi aggiuntivi di Matematica, in Italian, Laurea Triennale in Economia Aziendale), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2009/2010 (48 hours), 2011/2012 (16 hours), 2016/2017 (30 hours), 2017/2018 (12 hours).

- **Lecturer** (Professore) of the course *Elements of Mathematics* (Elementi di Matematica, 6 CFU, 48 hours, in Italian, Laurea Triennale in Economia Aziendale), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2010/2011, 2018/2019, 2019/2020, 2020/2021.
- **Lecturer** (Professore) of the course *Elements of Mathematics* (Elementi di Matematica, 3 CFU, 24 hours, in Italian, Laurea Triennale in Economia Aziendale), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2011/2012, 2012/2013.
- **Lecturer** (Professore) of the course *Operations Research* (Ricerca Operativa, 6 CFU, 48 hours, in Italian), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2013/2014, 2015/2016, 2016/2017, 2017/2018.
- **Lecturer** (Professore) of the course *Operations Research and Business Applications* (Ricerca Operativa e Applicazioni Aziendali, 6 CFU, 48 hours, in Italian), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2018/2019, 2019/2020.
- **Lecturer** (Professore) of the course *Methods and Models for Decision Making* (Metodi e Modelli per le Decisioni Aziendali, 6 CFU, 48 hours, in Italian), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic year 2020/2021.
- **Tutor** at the Faculty of Scienze Matematiche, Fisiche e Naturali, Università Cattolica of Brescia, academic years 2001/2002, 2002/2003, 2003/2004 2004/2005 and 2005/2006.
- **Exam committee member** (Cultore della materia) of the courses *Geometry 1*, *Geometry 2*, *Geometry 3*, *Complements of Geometry*, *Deepening of Geometry 2*, *Superior Geometry 1*, *Institutions of Superior Geometry 1* (Geometria 1-2-3, Complementi di Geometria, Approfondimenti di Geometria, Geometria Superiore 1, Istituzioni di Geometria Superiore 1, in Italian), Faculty of Scienze Matematiche, Fisiche e Naturali, Università Cattolica of Brescia, academic years 2003/2004, 2004/2005 and 2005/2006.
- **Exam committee member** (Cultore della materia) of the course *Financial Mathematics* (Matematica Finanziaria, in Italian), Faculty of Economics, University of Brescia, academic year 2005/2006.
- **Teaching assistant** (Esercitatrice) of the course *Complements of Geometry* (Complementi di Geometria, in Italian), Faculty of Scienze Matematiche, Fisiche e Naturali, Università Cattolica of Brescia, academic years 2003/2004, 2004/2005 and 2005/2006.
- **Teaching assistant** (Esercitatrice) of the course *Linear Algebra and Geometry* (Algebra Lineare e Geometria, in Italian), Faculty of Engineering, University of Brescia, academic years 2003/2004 and 2004/2005.
- **Teaching assistant** (Esercitatrice) of the course of *Mathematics* (Matematica, in Italian), Faculty of Economics, University of Bergamo, academic year 2004/2005.

- **On-line teaching assistant** (Esercitatrice on-line) of the course of *Mathematics* (Matematica, in Italian), Faculty of Economics, University of Bergamo, academic year 2004/2005.
- **Teaching assistant** (Esercitatrice) of the course of *Elements of Mathematics* (Elementi di Matematica, in Italian, Laurea Triennale in Economia Aziendale) Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2013/2014 (12 hours), 2014/2015 (36 hours), 2015/2016 (12 hours).
- **Teaching assistant** (Esercitatrice) of the course *Operations Research* (Ricerca Operativa, 24 hours, in Italian), Faculty of Economics, University of Bergamo, academic year 2012/2013.

### Master's Degree Programs

- **Lecturer** (Professore) of the course *Quantitative Models for Decision Making* (24 hours, 3 CFU), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic year 2020/2021.
- **Lecturer** (Professore) of the course *Quantitative Models for Decision Making* (16 hours, 2 CFU, with M.T. Vespucci, in English), Department of Management, Economics and Quantitative Methods, University of Bergamo, academic years 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2019/2020.
- **Lecturer** (Professore) of the course *Operational Research* (Ricerca Operativa, 48 hours, 6 CFU, in Italian), Faculty of Scienze Matematiche, Fisiche e Naturali, Università Cattolica of Brescia, academic years 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2019/2020, 2020/2021.
- **Exam committee member** (Cultore della materia) of the course *Methods of Optimization* (Metodi di Ottimizzazione, in Italian), the Faculty of Economics, University of Brescia, academic years 2004/2005 and 2005/2006.
- **Teaching assistant** (Esercitatrice) of the course of *Mathematics* (Matematica, in Italian), First level Master “Energy Risk Management”, University of Milano-Bicocca, University of Bergamo, April 2006 – May 2006.
- **Teaching assistant** (Esercitatrice) of the course *Methods of Optimization* (Metodi di Ottimizzazione, 50 hours, in Italian), Faculty of Economics, University of Brescia, academic years 2004/2005 and 2005/2006.
- **Teaching assistant** (Esercitatrice) of the course *Introduction to Logistics* (50 hours, in English), Department of Economics and Management, University of Brescia, academic year 2014/2015.

### Doctoral Programs

- **Lecturer** (Professore) of the course *Measure Theory* (18 hours), 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.



- **Lecturer** (Professore) of the course *Introduction to Stochastic Programming* (with M. Bertocchi and G. Consigli), 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 2011/2012, 2013/2014, 2014/2015, 2015/2016, 2016/2017.
- **Lecturer** (Professore) of the 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.
- **Lecturer** (Professore) of the course *Mathematics for Economics and Management* (6 hours) with S. Ortobelli, Course of the Doctorate Program in “Applied Economics and Management”, University of Bergamo and Pavia, academic years 2017/2018, 2018/2019, 2019/2020, 2020/2021.
- **Lecturer** (Professore) of the course *Operations Research for Applied Economics*, Course of the Doctorate Program in “Applied Economics and Management”, University of Bergamo and Pavia, academic year 2018/2019 (6 hours), 2019/2020 (9 hours).
- **Lecturer** (Professore) of the course *Optimization*, Course of the Doctorate Program in “Applied Economics and Management”, University of Bergamo and Pavia, academic year 2020/2021 (18 hours).

## Membership of the Teaching Council of Doctoral Programs

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- (2006 – 2009) **Metodi Computazionali per le Previsioni e Decisioni Economiche e Finanziarie**, University of Bergamo, cycles XXII, XXIII, XXIV, XXV.
- (2013 – present) **Analytics for Economics and Business**, Universities of Bergamo and Brescia, cycles XXIX, XXX,XXXI, XXXII.
- (2017 – present) **Applied Economics and Management**, Universities of Bergamo and Pavia, cycles XXXIII-XXXIV-XXXV-XXXVI-XXXVII.

## Supervision of Doctoral Students and Post-doc

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She has supervised the following doctoral students:

- **Matteo Cagnolari**, Doctorate program in Analytics for Economics and Business, cycle XXIX (co-supervisor L. Bertazzi).  
**Title of the Thesis:** The Value of the Right Distribution for the Newsvendor Problem and a bikesharing problem.

- **Sarem Deylami**, Doctorate program in Analytics for Economics and Business, cycle XXX (co-supervisor L. Bertazzi).  
**Title of the Thesis:** Optimization Models in Logistics.
- **Rossana Cavagnini**, Doctorate program in Analytics for Economics and Business, cycle XXXI (co-supervisor L. Bertazzi).  
**Title of the Thesis:** Stochastic Programming Models for distribution logistics, bikesharing and production management.
- **Daniel Faccini**, Ph.D. candidate of the Doctorate program in Applied Economics and Management, University of Bergamo and Pavia, cycle XXXIV.  
**Tentative Title of the Thesis:** Distributionally Robust Optimization Models and Approximations for Machine Learning and Revenue Management.
- **Andrea Spinelli**, Ph.D. candidate of the Doctorate program in Applied Economics and Management, University of Bergamo and Pavia, cycle XXXVI.

She has co-supervised the following post-doc fellow:

- Dr. **Davide Lauria**, University of Bergamo (main supervisor G. Consigli)  
**Title of the research project:** Modelli analitici per la valutazione dei rischi e la gestione di passività pensionistiche di natura complementare (Pillar 2).

### Prizes of her Students

- (Jul. 2017) Her Ph.D student **Rossana Cavagnini** received the *TSL 2016 Cross Regional Doctoral Grant* (supervisors Francesca Maggioni and Luca Bertazzi).
- (Dec. 2017) Her bachelor student **Francesca Sala** received the prize *UniveristAccademia* for a thesis on “Optimizing the timetabling of the University of Bergamo (supervisor Francesca Maggioni).
- (Jul. 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).
- (Dec. 2018) Her Ph.D. student **Daniel Faccini** received the prize as best student of the Department of Management, Economics and Quantitative Methods, University of Bergamo of the year 2018. The price has been granted by *Luberg*, the association of Laureates of the University of Bergamo.
- (Apr. 2021) Her Ph.D. student **Daniel Faccini** received the *Best Presentation Award*, 5th AIRO Young Workshop.
- (Apr. 2021) Her Ph.D. student **Daniel Faccini** received the prize *Giovanni Manera 2020-2021* granted by the University of Pavia.

## External Evaluator of Doctoral Students

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She has been nominated as external evaluator of the following doctoral students:

- (Nov. 2018) Candidate: **Vít Procházka**, Norwegian School of Economics NHH, Bergen, Norway.  
**Title of the thesis:** Uncertainty Modeling and Spatial Positioning in Tramp Shipping.
- (Mar. 2019) Candidate: **Mariangela Rosano**, Ph.D. Program in Computer and Control Engineering, cycle XXXI, Politecnico di Torino, Italy.  
**Title of the thesis:** Mixing quantitative and qualitative methods for sustainable transportation in Smart Cities.
- (Jun. 2019) Candidate: **Cheng Peng**, Ph.D. Program in Computer Science, Université Paris Sud, France.  
**Title of the thesis:** Chance Constrained Problem and Its Applications.
- (Sept. 2019) Candidate: **Jakub Kudela**, Brno University of Technology, Faculty of Mechanical Engineering, Institute of Mathematics, Brno, Czech Republic.  
**Title of the thesis:** Advanced Decomposition Methods in Stochastic Convex Optimization.

## Software Skills

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

## Languages

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- Italian (mother tongue);
- English (fluent).

## Membership in Societies

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- A.I.R.O. (Italian Association of Operational Research);
- S.I.M.A.I (Italian Society for Industrial and Applied Mathematics);

- A.M.A.S.E.S. (Italian Association for Mathematics Applied to Economic 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);
- I.N.D.AM. G.N.C.S. (Gruppo Nazionale per il Calcolo Scientifico);
- Ateneo Scienze Lettere ed Arti di Bergamo (since 2020).

Bergamo, April 7<sup>th</sup>, 2021

Francesca Maggioni