Mauro Passacantando
Academic Curriculum Vitae

General information

Passacantando, Mauro
Date of birth: 22 January 1976
Nationality: Italian
Web site: `https://www.unimib.it/mauro-passacantando`
Google Scholar profile: `https://scholar.google.it/citations?user=GEtI8UUAAAAJ&hl=it`
(2034 citations, 22 h-index)
Scopus profile: `https://www.scopus.com/authid/detail.uri?origin=AuthorProfile&authorId=2` `2635215600&zone=` (1421 citations, 20 h-index)

Current position

– Since September 2022: Associate Professor in Operations Research at the Department of Business and Law, University of Milano-Bicocca, Italy
– Since July 2023: associated with a collaborative position at the "Istituto di Analisi dei Sistemi ed Informatica – Antonio Ruberti" (IASI) of the Italian National Research Council (CNR)
– Since 2021: Associate Editor of the international journal *Mathematics* (first-quartile ISI and Scopus)
– Since 2024: Member of the faculty board for the doctoral program in computer science at University of Milano-Bicocca

Previous positions

– From 2019 to 2022: Associate Professor in Operations Research at the Department of Computer Science, University of Pisa.
– From 2020 to 2022: Coordinator of the Computational Mathematics Laboratory at the Department of Computer Science, University of Pisa.
– From 2012 to 2019: Assistant Professor in Operations Research at the Department of Computer Science, University of Pisa.
– From 2002 to 2012: Assistant Professor in Operations Research at the Department of Applied Mathematics, University of Pisa.

Awards

– Best Student Paper Award at the 23rd International Conference of Artificial Intelligence in Medicine (AIME 2025): Piazza, M., Passacantando, M., Bedoni, M., Messina, E., A SHAP Quotient Game for Explaining Raman Spectroscopy Classification Models.
– September 2018: Full Professorship Qualification in Operations Research (MAT/09).
– March 2017: Associate Professorship Qualification in Operations Research (MAT/09).
– 2017: Winner of an Italian FFABR ("Fondo per il Finanziamento delle Attività Base di Ricerca") research grant
– March 2015: Associate Professorship Qualification in Mathematical Methods of Economics (SECS-S/06).

Education

– November 2005: Ph.D. in Mathematics from the University of Pisa, title of the thesis: *On finite-*

dimensional equilibrium problems.
– April 2000: M.S. Degree in Mathematics from the University of Pisa, 110/110 cum Laude.

Research topics

The following research topics have been studied:
– Theory, algorithms and applications of finite-dimensional variational inequalities: links with dynamical systems, solution algorithms, set-valued variational inequalities, applications to deterministic and stochastic traffic network equilibrium problems, applications to network games;
– Theory, algorithms and application of finite-dimensional equilibrium problems (Ky Fan inequalities): existence of solutions, merit functions, solution algorithms, quasi-equilibrium problems, generalized Nash equilibrium models for service provisioning problems in cloud systems, Stackelberg game models for mobile crowdsensing systems, multi-leader-follower game models for the interactions of infrastructure and service providers in 5G networks;
– Optimization and cooperative game models for infrastructure and spectrum sharing in mobile networks;
– Cooperative game models applied to transportation networks, energy community design, feature selection and explainable AI.
– Mixed integer linear programming models and algorithms for green warehouse management;
– Optimization models and algorithms for chemotherapy appointment scheduling problems;
– Integer linear programming models for radio-based localization of shipping containers.

Research projects

– 2021-2025: Project of National Relevance PRIN *Urban logistics and sustainable transportation: optimization under uncertainty and machine learning*;
– 2024: Project *Ottimizzazione con decisori multipli e incertezza nei dati* funded by INdAM-GNAMPA;
– 2023: Project *Sviluppo di metodi di machine learning per la stima del valore di Shapley e di sue generalizzazioni* funded by INdAM-GNAMPA;
– 2021: Project *Sviluppo di modelli matematici per l'ottimizzazione di un sistema di tubazioni* founded by Softec s.r.l.;
– 2020-2021: Project *Analysis of complex networks: from theory to applications* funded by University of Pisa;
– 2018-2020: Project *Integrated system for the efficient management of large warehouses with high rotation index in Industry 4.0* funded by Regione Toscana;
– 2017-2020: Project of National Relevance PRIN *Nonlinear and Combinatorial Aspects of Complex Networks*;
– 2017-2018: Project *Innovative models and algorithms for structured and sparse large scale problems* funded by University of Pisa;
– 2015: Project *Mathematical models and computational methods for complex networks* funded by University of Pisa;
– 2014: Project *Optimization techniques for the real-time management of advertising spaces on the Internet* funded by Solutions by Daniel Pirchio;
– 2014: Project *Optimal routes in a personalized tourist guide* funded by Genesisoft S.a.s.;
– 2012-2013: Project *Cash flow forecast models for cash management in bank branches* funded by Bassilichi S.p.a.;
– 2008: Joint project between University of Pisa and National Sun Yat-Sen University of Kaohsiung (Taiwan);
– 2007-2009: Project of National Relevance PRIN *Nonlinear Optimization, Variational Inequalities, and Equilibrium Problems*;
– 2005-2007: Project of National Relevance PRIN *New Problems and Innovative Methods in Nonlinear Optimization*;
– 2002-2005: Project of National Relevance FIRB *Large Scale Nonlinear Optimization.*

PUBLICATIONS

Monographs

[1] Bigi G., Castellani M., Pappalardo M., Passacantando M. (2019), Nonlinear Programming Techniques for Equilibria, EURO Advanced Tutorials on Operational Research, Springer.

Journal articles

[2] Carello G., Passacantando M., Tanfani E. (in press), Interday and Intraday Chemotherapy Appointment Scheduling: a Patient-Centered Approach, European Journal of Operational Research, DOI: 10.1016/j.ejor.2025.12.023.

[3] Aizdi L., Lanza G., Passacantando M., Scutellà M.G., Siri S., Bracco S. (in press), Integrating Energy Management Systems and Renewable Energy Sources in Green Warehouses: The Energy-Aware Green Sequencing and Routing Problem, International Journal of Production Research, DOI: 10.1080/00207543.2025.2561776.

[4] Passacantando M., Gnecco G., Sanguineti M. (in press), Shapley Value Approximation via Machine Learning in Cooperative Games for Traffic Equilibrium, Journal of Dynamics and Games, DOI: 10.3934/jdg.2025038.

[5] Passacantando M., Raciti F. (2026), Adapting to Climate Change: a Two-Stage Nash Equilibrium Model of Coalition Formation, Applied Set-Valued Analysis and Optimization, vol. 8 (1), pp. 67-83.

[6] Passacantando M., Raciti F. (2026), A game theory model of tariff rate quotas in international trade, Journal of Dynamics and Games, vol. 13, pp. 72-90.

[7] Sedghani H. , Passacantando M., Ardagna D. (2025), Application Component Placement and Resource Optimization in Computing Continua, IEEE Transactions on Services Computing vol. 18 (6), pp. 3491-3508.

[8] Passacantando M., Raciti F. (2025), A Unified Variational Framework for Global Agricultural Supply Chains under Uncertain Exchange Rates: New Classes of Cost and Price Functions, Journal of Nonlinear and Variational Analysis, vol. 9 (4), pp. 617-635.

[9] Sedghani H. , Passacantando M., Lancellotti R., Lighvan M.Z., Ardagna D. (2025), A Robust Game Approach for On Spot Price Cloud Markets in Microservice-based Applications, IEEE Access, vol. 13, pp. 42178-42195.

[10] Sala R., Sedghani H., Passacantando M., Verticale G., Ardagna D. (2025), AI Applications Resource Allocation in Computing Continuum: a Stackelberg Game Approach, IEEE Transactions on Cloud Computing, vol. 13 (1), pp. 166-183.

[11] Passacantando M., Raciti F. (2025), A three-stage game model of the supply chain in disaster relief operations, Journal of Optimization Theory and Applications, vol. 205 (3), Article 44.

[12] Fioriti D., Bigi G., Frangioni A., Passacantando M., Poli D. (2025), Fair Least Core: efficient, stable and unique game-theoretic reward allocation in Energy Communities by row-generation, IEEE Transactions on Energy Markets, Policy and Regulation, vol. 3 (2), pp. 170-181.

[13] Giordano M.D.E., Passacantando M., Raciti F. (2024), A Game Theory Derivation of a Classical Financial Equilibrium Model, Optimization Eruditorum, vol. 1 (2), pp. 128-140.

[14] Passacantando M., Raciti F. (2024), A continuity result for the Nash equilibrium of a class of network games, Journal of Nonlinear and Variational Analysis, vol. 8 (1), pp. 167-179.

[15] Lanza G., Passacantando M., Scutellà M.G. (2024), Matheuristic approaches to the Green Sequencing and Routing Problem, Flexible Services and Manufacturing Journal, vol. 36, pp. 994-1045.

[16] Passacantando M., Raciti F. (2023), Lipschitz continuity results for a class of parametric variational inequalities and applications to network games, Algorithms, vol. 16 (10), Article 458.

[17] Passacantando M., Raciti F. (2023), A finite convergence algorithm for solving linear-quadratic network games with strategic complements and bounded strategies, Optimization Methods and Software, vol. 38 (6), pp. 1105-1128.

[18] Passacantando M., Raciti F., Nagurney A. (2023), International migrant flows: Coalition formation among countries and social welfare, EURO Journal on Computational Optimization, vol. 11, Article 100062.

[19] Lanza G., Passacantando M., Scutellà M.G. (2023), Sequencing and Routing in a Large Warehouse with High Degree of Product Rotation, Flexible Services and Manufacturing Journal, vol. 35, pp. 1206-1255.

[20] Sedghani H., Lighvan M.Z., Aghdasi H.S., Passacantando M., Verticale G., Ardagna D. (2022), A Stackelberg Game approach for Managing AI Sensing Tasks in Mobile Crowdsensing, IEEE Access, vol. 10, pp. 91524-91544.

[21] Lucidi S., Passacantando M., Rinaldi F. (2022), Solving non-monotone equilibrium problems via a DIRECT-type approach, Journal of Global Optimization, vol. 83 (4), pp. 699-725.

[22] Lanza G., Passacantando M., Scutellà M.G. (2022), Assigning and sequencing storage locations under a two level storage policy: optimization model and matheuristic approaches, Omega, vol. 108, Article 102565.

[23] Passacantando M., Raciti F. (2022), A performance measure analysis for traffic networks with random data and general monotone cost functions, Optimization, vol. 71 (8), pp. 2375-2401.

[24] Sedghani H., Ardagna D., Passacantando M., Lighvan M.Z., Aghdasi H.S. (2021), An Incentive Mechanism based on a Stackelberg Game for Mobile Crowdsensing Systems with Budget Constraint, Ad Hoc Networks, vol. 123, Article 102626.

[25] Passacantando M., Gnecco G., Hadas Y., Sanguineti M. (2021), Braess' paradox: a cooperative game-theoretic point of view, Networks, vol. 78 (3), pp. 264-283.

[26] Passacantando M., Raciti F. (2021), Optimal road maintenance investment in traffic networks with random demands, Optimization Letters, vol. 15 (5), pp. 1799-1819.

[27] Pappalardo M., Passacantando M., Raciti F. (2020), A stochastic network equilibrium model for electric power markets with uncertain demand, Optimization, vol. 69 (7-8), pp. 1703-1730.

[28] Cano L., Carello G., Cesana M., Passacantando M., Sansò B. (2019), Modeling the techno-economic interactions of infrastructure and service providers in 5G networks with a multi-leader-follower game, IEEE Access, vol. 7, pp. 162913-162940.

[29] Malekimajd M., Ardagna D., Ciavotta M., Gianniti E., Passacantando M. Rizzi A.M. (2018), An Optimization Framework for the Capacity Allocation and Admission Control of MapReduce Jobs in Cloud Systems, The Journal of Supercomputing, vol. 74 (10), pp. 5314-5348.

[30] Bigi G., Passacantando M. (2017), Differentiated oligopolistic markets with concave cost functions via Ky Fan inequalities, Decisions in Economics and Finance, vol. 40 (1-2), pp. 63-79.

[31] Bigi G., Passacantando M. (2017), Auxiliary problem principles for equilibria, Optimization, vol. 66 (12), pp. 1955-1972.

[32] Cano L., Capone A., Carello G., Cesana M., Passacantando M. (2017), On Optimal Infrastructure Sharing Strategies in Mobile Radio Networks, IEEE Transactions on Wireless Communications, vol. 16 (5), pp. 3003-3016.

[33] Ardagna D., Ciavotta M., Passacantando M. (2017), Generalized Nash Equilibria for the Service Provisioning Problem in Multi-Cloud Systems, IEEE Transactions on Services Computing, vol. 10 (3), pp. 381-395.

[34] Bigi G., Pappalardo M., Passacantando M. (2016), Optimization Tools for Solving Equilibrium Problems with Nonsmooth Data, Journal of Optimization Theory and Applications, vol. 171 (3), pp. 887-905.

[35] Bigi G., Passacantando M. (2016), Gap functions for quasi-equilibria, Journal of Global Optimization, vol. 66 (4), pp. 791-810.

[36] Cano L., Capone A., Carello G., Cesana M., Passacantando M. (2016), Cooperative Infrastructure and Spectrum Sharing in Heterogeneous Mobile Networks, IEEE Journal on Selected Areas in Communications, vol. 34 (10), pp. 2617-2629.

[37] Passacantando M., Ardagna D., Savi A. (2016), Service Provisioning Problem in Cloud and multi-Cloud Systems, INFORMS Journal on Computing, vol. 28 (2), pp. 265-277.

[38] Pappalardo M., Mastroeni G., Passacantando M. (2016), Merit functions: a bridge between optimization and equilibria, Annals of Operations Research, vol. 240 (1), pp. 271-299.

[39] Malekimajd M., Ardagna D., Ciavotta M., Rizzi A.M., Passacantando M. (2015), Optimal Map Reduce Job Capacity Allocation in Cloud Systems, ACM SIGMETRICS Performance Evaluation Review, vol. 42 (4), pp. 51-61.

[40] Bigi G., Passacantando M. (2015), D-gap functions and descent techniques for solving equilibrium problems, Journal of Global Optimization, vol. 62 (1), pp. 183-203.

[41] Bigi G., Passacantando M. (2015), Twelve monotonicity conditions arising from algorithms for equilibrium problems, Optimization Methods and Software, vol. 30 (2), pp. 323-337.

[42] Bigi G., Passacantando M. (2015), Descent and Penalization Techniques for Equilibrium Problems with Nonlinear Constraints, Journal of Optimization Theory and Applications, vol. 164 (3), pp. 804-818.

[43] Pappalardo M., Mastroeni G., Passacantando M. (2014), Merit functions: a bridge between optimization and equilibria, 4OR, vol. 12 (1), pp. 1-33.

[44] Anselmi J., Ardagna D. Passacantando M. (2014), Generalized Nash Equilibria for SaaS/PaaS Clouds, European Journal of Operational Research, vol. 236 (1), pp. 326-339.

[45] Di Lorenzo D., Passacantando M., Sciandrone M. (2014), A convergent inexact solution method for equilibrium problems, Optimization Methods and Software, vol. 29 (5), pp. 979-991.

[46] Ardagna D., Panicucci B., Passacantando M. (2013), Generalized Nash Equilibria for the Service Provisioning Problem in Cloud Systems, IEEE Transactions on Services Computing, vol. 6 (4), pp. 429-442.

[47] Bigi G., Castellani M., Pappalardo M., Passacantando M. (2013), Existence and solution methods for equilibria, European Journal of Operational Research, vol. 227 (1), pp. 1-11.

[48] Bigi G., Passacantando M. (2012), Gap functions and penalization for solving equilibrium problems with nonlinear constraints, Computational Optimization and Applications, vol. 53 (2), pp. 323-346.

[49] Mordukhovich B.S., Panicucci B., Pappalardo M., Passacantando M. (2012), Hybrid proximal methods for equilibrium problems, Optimization Letters, vol. 6 (7), pp. 1535-1550.

[50] Abbate S., Avvenuti M., Corsini P., Panicucci B., Passacantando M., Vecchio A. (2012), An integer linear programming approach for radio-based localization of shipping containers in the presence of incomplete proximity information, IEEE Transactions on Intelligent Transportation Systems, vol. 13 (3), pp. 1404-1419.

[51] Konnov I.V., Panicucci B., Passacantando M. (2010), A successive quadratic programming method for nonsmooth variational inequalities, Applied Mathematical and Computational Sciences, vol. 1 (1), pp. 83-102.

[52] Castellani M., Pappalardo M., Passacantando M. (2010), Existence results for nonconvex equilibrium problems, Optimization Methods and Software, vol. 25 (1), pp. 49-58.

[53] Panicucci B., Pappalardo M., Passacantando M. (2010), Descent methods for a class of generalized variational inequalities, Computational Optimization and Applications, vol. 45 (2), pp. 415-425.

[54] Panicucci B., Pappalardo M., Passacantando M. (2009), On solving generalized Nash equilibrium problems via optimization, Optimization Letters, vol. 3 (3), pp. 419-435.

[55] Mastroeni G., Panicucci B., Passacantando M., Yao J.-C. (2009), A separation approach to vector quasi-equilibrium problems: saddle point and gap function, Taiwanese Journal of Mathematics, vol. 13 (2), pp. 657-673.

[56] Panicucci B., Pappalardo M., Passacantando M. (2009), A globally convergent descent method for nonsmooth variational inequalities, Computational Optimization and Applications, vol. 43 (2), pp. 197-211.

[57] Panicucci B., Pappalardo M., Passacantando M. (2008), Solution methods for mixed variational inequalities, International Journal of Pure and Applied Mathematics, vol. 45 (3), pp. 429-438.

[58] Panicucci B., Pappalardo M., Passacantando M. (2008), A descent method for nonsmooth variational inequalities via regularization, WSEAS Transactions on Mathematics, vol. 7 (1), pp. 56-65.

[59] Konnov I.V., Panicucci B., Passacantando M. (2008), A derivative-free descent method for nonsmooth variational inequalities, International Journal of Pure and Applied Mathematics, vol. 45 (1), pp. 67-85.

[60] Panicucci B., Pappalardo M., Passacantando M. (2007), A path-based double projection method for solving the asymmetric traffic network equilibrium problem, Optimization Letters, vol. 1 (2), pp. 171-185

[61] Panicucci B., Pappalardo M., Passacantando M. (2006), On finite-dimensional generalized variational inequalities, Journal of Industrial and Management Optimization, vol. 2 (1), pp. 43-53.

[62] Pappalardo M., Passacantando M. (2004), Gap functions and Lyapunov functions, Journal of Global Optimization, vol. 28 (3), pp. 379-385.

[63] Cavazzuti E., Pappalardo M., Passacantando M. (2002), Nash equilibria, variational inequalities and dynamical systems, Journal of Optimization Theory and Applications, vol. 114 (3), pp. 491-506.

[64] Pappalardo M., Passacantando M. (2002), Stability for equilibrium problems: from variational inequalities to dynamical systems, Journal of Optimization Theory and Applications, vol. 113 (3), pp. 567-582.

Book Chapters

[65] Passacantando M., Raciti F. (in press), The Variational Inequality Framework for Network Games: A Review, in "Equilibrium Problems: Existence, Stability and Algorithms", M. Ait Mansour, A. Khan, H. Riahi, and C. Tammer (eds.), Springer, Cham.

[66] Passacantando M., Raciti F. (in press), A network game related to the PageRank centrality, to appear in AIRO Springer Series.

[67] Piazza M., Consolo A., Mariani C., Messina E., Passacantando M. (in press), A comparative analysis of game theory solution concepts for feature selection, to appear in AIRO Springer Series.

[68] Passacantando M., Raciti F. (in press), Exploring network centrality through the lens of Game Theory, in "Convex and Variational Analysis with Applications", P.M. Pardalos and T.M. Rassias (eds.), Springer, Cham.

[69] Gnecco G., Hadas Y., Passacantando M., Sanguineti M. (2026), On the approximation of the Shapley value via machine learning in transportation network cooperative games, in "Operations Research: Closing the Gap Between Research and Practice", Di Francesco et al. (eds.), AIRO Springer Series vol. 15, Springer, Cham, pp. 27-36.

[70] Passacantando M., Raciti F. (2025), On the ranking of players in Network Games with local average, in "Mathematical Analysis, Optimization, Approximation and Applications", P.M. Pardalos and T.M. Rassias (eds.), World Scientific, pp. 733-752.

[71] Passacantando M., Raciti F., Rassias M.T. (2025), A two-stage game theoretical model of social interactions and location choice in city areas, in "Mathematical Analysis, Optimization, Approximation and Applications", P.M. Pardalos and T.M. Rassias (eds.), World Scientific, pp. 753-772.

[72] Passacantando M., Raciti F. (2024), A random variational inequality model of an international agricultural supply chain with a vulnerability analysis under disaster scenarios, in "Dynamics of Disasters ? From Natural Phenomena to Human Activity", I.S. Kotsireas, A. Nagurney, P.M. Pardalos, S.W. Pickl and C. Vogiatzis (eds.), Springer Optimization and Its Applications 217, Springer, Cham, pp. 207-231.

[73] Passacantando M., Raciti F. (2024), Some properties of a class of Network Games with strategic complements or substitutes, in "Mathematical Analysis, Differential Equations and Applications", T.M. Rassias and P.M. Pardalos (eds.), pp. 689-709.

[74] Passacantando M. (2024), Game theory models of international agreements on adaptation to climate change, in "Optimization in Green Sustainability and Ecological Transition", Bruglieri et al. (eds.), AIRO Springer Series vol. 12, Springer, Cham, pp. 49-58.

[75] Lanza G., Crainic T.G., Passacantando M., Scutellà M.G. (2024), A Continuous Time Physical Graph based Formulation to Scheduled Service Network Design, in "Optimization in Green Sustainability and Ecological Transition", Bruglieri et al. (eds.), AIRO Springer Series vol. 12, Springer, Cham, pp. 265-275.

[76] Passacantando M., Raciti F. (2023), A multiclass network international migration model under shared regulations, in "Optimization and Decision Science: Operations Research, Inclusion and Equity", Cappanera, P., Lapucci, M., Schoen, F., Sciandrone, M., Tardella, F., Visintin, F. (eds), AIRO Springer Series, vol 9. Springer, Cham, pp. 47-57.

[77] Passacantando M., Raciti F. (2022), A variational inequality approach to a class of network games with local complementarities and global congestion, in "Optimization in Artificial Intelligence and Data Sciences", L. Amorosi, P. Dell'Olmo, I. Lari (eds.), AIRO Springer Series, vol. 8, Springer, Cham, pp. 1-11.

[78] Lanza G., Passacantando M., Scutellà M.G. (2022), A fast heuristic approach for the assignment and sequencing storage location problem under a two level storage policy, in "Optimization in Artificial Intelligence and Data Sciences", L. Amorosi, P. Dell'Olmo, I. Lari (eds.), AIRO Springer Series, vol. 8, Springer, Cham, pp. 151-161.

[79] Passacantando M., Raciti F. (2022), A variational formulation of network games with random utility functions, in "Approximation and Computation in Science and Engineering", N.J. Daras and T.M. Rassias (eds.), Springer Optimization and Its Applications, vol. 180, Springer, Cham, pp. 667-677.

[80] Passacantando M., Raciti F. (2021), Congestion control and optimal maintenance of communication networks with stochastic cost functions: a variational formulation, in "Mathematical Analysis in Interdisciplinary Research", I.N. Parasidis, E. Providas, T.M. Rassias (eds.), Springer Optimization and Its Applications, vol. 179, Springer, Cham, pp. 599-617.

[81] Passacantando M., Raciti F. (2021), A note on network games with strategic complements and the Katz-Bonacich centrality measure, in "Optimization and Decision Science", R. Cerulli, M. Dell'Amico, F. Guerriero, D. Pacciarelli, A. Sforza (eds.), AIRO Springer Series, vol. 7, Springer, Cham, pp. 51-61.

[82] Passacantando M., Gnecco G., Hadas Y., Sanguineti M. (2021), On Braess' paradox and average quality of service in transportation network cooperative games, in "Optimization and Decision Science", R. Cerulli, M. Dell'Amico, F. Guerriero, D. Pacciarelli, A. Sforza (eds.), AIRO Springer Series, vol. 7, Springer, Cham, pp. 27-37.

[83] Passacantando M., Raciti F. (2021), Optimal improvement of communication network congestion via nonlinear programming with generalized Nash equilibrium constraints, in "Optimization and Decision Science", R. Cerulli, M. Dell'Amico, F. Guerriero, D. Pacciarelli, A. Sforza (eds.), AIRO Springer Series, vol. 7, Springer, Cham, pp. 39-49.

[84] Passacantando M., Raciti F. (2021), A note on generalized Nash games played on networks, in "Nonlinear Analysis, Differential Equations, and Applications", T.M. Rassias (ed.), Springer Optimization and Its Applications, vol. 173, Springer, Cham, pp. 365-380.

[85] Passacantando M., Raciti F. (2021), On the approximation of monotone variational inequalities in L^p spaces with probability measure, in "Nonlinear Analysis and Global Optimization", T.M. Rassias and P.M. Pardalos (eds.), Springer Optimization and Its Applications, vol. 167, Springer, Cham, pp. 403-425.

[86] Passacantando M., Raciti F. (2019), A traffic equilibrium nonlinear programming model for optimizing road maintenance investments, in "Advances in Optimization and Decision Science for Society, Services and Enterprises", M. Paolucci, A. Sciomachen, and P. Uberti (eds.), AIRO Springer Series, vol. 3, Springer, Cham, pp. 267-277.

[87] Bigi G., Castellani M., Giuli M., Panicucci B., Pappalardo M., Passacantando M. (2012), Recent advances in equilibrium problems, in "Recent Advances in Nonlinear Optimization and Equilibrium Problems: a Tribute to Marco D'Apuzzo", V. De Simone, D. di Serafino, and G. Toraldo (eds.), Quaderni di Matematica, Dipartimento di Matematica della Seconda Universita' di Napoli, vol. 27, pp. 41-66.

[88] Passacantando M. (2005), Stability of equilibrium points of projected dynamical systems, in "Optimization and control with applications", Qi, Teo, Yang (eds.), Springer, New York, pp. 407-421.

[89] Pappalardo M., Passacantando M. (2003), Equilibrium concepts in transportation networks: generalized Wardrop conditions and variational formulations, in "Equilibrium problems and variational models", Daniele, Giannessi, Maugeri (eds.), Kluwer, Norwell, MA, pp. 333-346.

Conference proceedings

[90] Piazza, M., Passacantando, M., Bedoni, M., Messina, E. (2025), A SHAP Quotient Game for Explaining Raman Spectroscopy Classification Models, In: Bellazzi, R., Juarez Herrero, J.M., Sacchi, L., Zupan, B. (eds) Artificial Intelligence in Medicine. AIME 2025. Lecture Notes in Computer Science, vol 15734, pp. 365-374.

[91] Piazza M., Passacantando M., Bedoni M., Messina E. (2025), Explaining Classifications of Raman Spectral Data based on Quotient Games, Proceedings of the 1st International Conference on AI in Medicine and Healthcare (AiMH' 2025), Innsbruck, Austria, pp. 19-24.

[92] Clayton M., Passacantando M., Sanguineti M. (eds.), Intelligent Technologies for Interactive Entertainment, INTETAIN 2023, Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol. 560, 2024, Springer, Cham.

[93] Lanza G., Passacantando M., Scutellà M.G. (2022), The Green Sequencing and Routing Problem, In: de Armas, J., Ramalhinho, H., Voß, S. (eds) Computational Logistics. ICCL 2022, Lecture Notes in Computer Science, vol 13557, pp. 231-244, Springer, Cham.

[94] Baiardi F., Maggi D.M., Passacantando M. (2022), Discovering How to Attack a System, Proceedings of the 19th International Conference on Security and Cryptography (SECRYPT 2022), pp. 548-553, Lisbon, Portugal.

[95] P. Nepa, A. Motroni, A. Congi, E.M. Ferro, M. Pesi, G. Giorgi, A. Buffi, M. Lazzarotti, J. Bellucci, S. Galigani, M. Frosolini, M. Braglia, A. Bigongiari, G. Isola, F. Bertuccelli, M.G. Scutellà, M. Pappalardo, M. Passacantando, D. Lo Schiavo, A. Rubichi, C. Salvador, F. Bonifacio, F. Zani (2019), I-READ 4.0: Internet-of-READers for an efficient asset management in large warehouses with high stock rotation index, Proceedings of the 5th IEEE International Forum on Research and Technology for Society and Industry (RTSI 2019), pp. 67-72, Florence, Italy.

[96] Gianniti E., Ardagna D., Ciavotta M., Passacantando M., (2017), A Game-Theoretic Approach for Runtime Capacity Allocation in MapReduce, Proceedings of the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2017), pp. 1080-1089, Madrid, Spain.

[97] Cano L. Capone A., Carello G., Cesana M., Passacantando M. (2016), A Non-cooperative Game Approach for RAN and Spectrum Sharing in Mobile Radio Networks, Proceedings of the 22nd European Wireless Conference (EW 2016), pp. 377-382, Oulu, Finland.

[98] Malekimajd M., Rizzi A.M., Ardagna D., Ciavotta M., Passacantando M., Movaghar A. (2015), Optimal Capacity Allocation for executing Map Reduce Jobs in Cloud Systems, 16th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (MICAS-SYNASC 2014), Timisoara, Romania.

[99] Carmignani G., Passacantando M., Tumminelli G. (2014), A Novel Method Based on Artificial Neural Network to Production Planning: a case study of a paints producer, 18th International Working Seminar on Production Economics, Innsbruck, Austria.

[100] Ardagna D., Panicucci B., Passacantando M. (2011), A Game Theoretic Formulation of the Service Provisioning Problem in Cloud Systems, Proceedings of the 20th international conference on World Wide Web, pp. 177-186, Hyderabad, India.

Ph.D. Thesis

[101] Passacantando M., "On finite-dimensional equilibrium problems", Ph.D. Thesis in Mathematics, University of Pisa, 2005.

Textbooks (in italian)

[102] Pappalardo M., Passacantando M. (2012), Ricerca Operativa, Pisa University Press, pp. 376.

[103] Pappalardo M., Passacantando M. (2006), Lezioni di Ricerca Operativa, Edizioni Plus - Università di Pisa, pp. 324.

[104] Pappalardo M., Passacantando M. (2004), Metodi e modelli matematici di ottimizzazione per la gestione, Edizioni Plus - Università di Pisa, pp. 208.

Dissemination articles (in italian)

[105] Baiardi F., Maggi D.M., Passacantando M., Machine learning: perché è difficile applicarlo all'offensive security, Agenda Digitale, 20 gennaio 2022.

Major national and international collaborations

– Wayne State University, Detroit (USA): Boris S. Mordukhovich
– University of Massachusetts, Amherst (USA): Anna Nagurney
– Kazan University (Russia): Igor V. Konnov
– Université du Québec à Montréal (Canada): Teodor Gabriel Crainic
– Polytechnique de Montréal (Canada): Brunilde Sansò
– National Sun Yat-Sen University of Kaohsiung (Taiwan): Jen-Chih Yao
– Bar-Ilan University (Israel): Yuval Hadas
– Sharif University of Technology, Tehran (Iran): Ali Movaghar, Marzieh Malekimajd
– University of Tabriz (Iran): Hadi S. Aghdasi, Mina Zolfy Lighvan, Hamta Sedghani
– University of Catania (Italy): Fabio Raciti
– University of Genova (Italy): Stefano Bracco, Marcello Sanguineti, Silvia Siri, Elena Tanfani
– IMT Lucca (Italy): Giorgio Stefano Gnecco
– Polytechnic University of Milan (Italy): Danilo Ardagna, Lorela Cano, Antonio Capone, Giuliana Carello, Matteo Cesana
– University of Padova (Italy): Francesco Rinaldi
– University of Pisa (Italy): Marco Avvenuti, Fabrizio Baiardi, Giancarlo Bigi, Paolo Corsini, Davide Fioriti, Giacomo Lanza, Giandomenico Mastroeni, Massimo Pappalardo, Davide Poli, Maria Grazia Scutellà, Alessio Vecchio
– Sapienza University of Rome (Italy): Stefano Lucidi, Marco Sciandrone

International Conference Talks

1. International Conference on Optimization and Decision Science, Milan, September 1-4, 2025: A Network Game Related to the PageRank Centrality.

2. EUROPT Conference on Advances in Continuous Optimization, Southampton, June 29 - July 2, 2025: Robust Generalized Nash Equilibria.

3. EURO Conference, Leeds, June 22-25, 2025: On the Optimization of Vectors of Katz-Bonacich's Centralities Related to Nash Equilibria for a Class of Non-Cooperative Network Games.

4. EURO Conference, Copenhagen, July 1-3, 2024: Approximate computation of the Shapley value in cooperative games on transportation networks via machine-learning techniques.

5. **Invited speaker** at "Afternoon Workshop in Optimization", Università Cattolica del Sacro Cuore, Milan, April 4, 2024: Network games with bounded strategies: properties, algorithms, extensions.

6. International Conference on Optimization and Decision Science, Ischia, September 4-7, 2023: Game theory models of international agreements on adaptation to climate change.

7. International Conference on Optimization and Decision Science, Ischia, September 4-7, 2023: On the approximation of the Shapley value via machine learning in parametrized transferable utility games.

8. EUROPT Workshop on Advances in Continuous Optimization, Budapest, August 23-25, 2023: A random variational inequality model of international agricultural supply chain with a vulnerability analysis under disaster scenarios.

9. **Invited speaker** at "Mini-symposium on Variational Analysis and Applications", University of Brescia, June 23, 2023: A finite convergence algorithm for solving linear-quadratic network games with strategic complements and bounded strategies.

10. International Conference on Optimization and Decision Science, Firenze (online), August 30 ? September 2, 2022: A finite convergence algorithm for solving network games with strategic complements and bounded strategies.

11. AMASES Conference (online), September 15-18, 2021: A network centrality measure based on the equilibrium social welfare in network games.

12. International Conference on Optimization and Decision Science, Rome (online), September 14-17, 2021: A network centrality measure based on the equilibrium social welfare in network games.

13. EURO Conference, Athens (online), July 11-14, 2021: An appointment scheduling problem for pre-admission testing with COVID-19 related constraint.

14. EUROPT Workshop on Advances in Continuous Optimization, Toulouse (online), July 7-9, 2021: Solving non-monotone equilibrium problems via a DIRECT-type approach.

15. International Conference on Optimization and Decision Science, Genova, September 4-7, 2019: Braess' paradox and cooperative games.

16. International Conference on Continuous Optimization, Berlin, August 4-8, 2019: A global optimization approach for solving non-monotone equilibrium problems.

17. EUROPT Workshop on Advances in Continuous Optimization, Glasgow, June 28-29, 2019: A global optimization approach for solving non-monotone equilibrium problems.

18. EURO Conference, Dublin, June 23-26, 2019: An extension of Braess paradox to transportation network cooperative games.

19. Workshop "Multiagent optimization", Roma, December 3, 2018: Nonlinear programming techniques for quasi-equilibria.

20. International Conference on Optimization and Decision Science, Taormina, September 10-13, 2018: Cutting surface methods for equilibria.

21. EUROPT Workshop on Advances in Continuous Optimization, Almeria, July 12-13, 2018: Fixed point and extragradient algorithms for quasi-equilibria.

22. EURO Conference, Valencia, July 8-11, 2018: Cooperative Infrastructure and Spectrum Sharing in Heterogeneous Mobile Networks.

23. International Symposium on Mathematical Programming, Bordeaux, July 1-6, 2018: Fixed point and extragradient algorithms for quasi-equilibria.

24. Conference on Optimization Methods and Software, Havana, December 16-20, 2017: Algorithms for quasi-equilibria.

25. International Conference on Optimization and Decision Science, Sorrento, September 4-7, 2017: Fixed point algorithms for quasi-equilibria.

26. EUROPT Workshop on Advances in Continuous Optimization, Montreal, July 12-14, 2017: A sequential equilibrium programming algorithm for computing quasi-equilibria.

27. **Invited speaker** at the 3rd International Conference on Computational Science and Engineering, Ho Chi Minh City, Vietnam, November 28-30, 2016: Descent and cutting surface methods for nonsmooth equilibrium problems.

28. Workshop "Variational Inequalities, Nash Equilibria and Applications" 2016, Catania, October 6-7, 2016: Service Provisioning Problem in Cloud and Multi-Cloud Systems.

29. EURO Conference, Poznan, July 3-6, 2016: Service Provisioning Problem in Cloud and Multi-Cloud Systems.

30. OR2015 Conference, Vienna, September 1-4, 2015: Gap functions and descent methods for quasi-equilibria.

31. EURO Conference 2015, Glasgow, July 12-15, 2015: Generalized Nash Equilibria for the Service Provisioning Problem in Multi-Cloud Systems.

32. EUROPT Workshop on Advances in Continuous Optimization, Edinburgh, July 8-10, 2015: Cutting surface methods for equilibria.

33. **Invited Speaker** at the Workshop on "Variational Analysis, Game Theory and related topics", Genova, May 7-8, 2015: A close look at auxiliary problem principles for equilibria.

34. Workshop "Variational inequalities, Nash equilibrium problems and applications", Catania, September 25-26, 2014: Cutting plane methods for equilibrium problems.

35. **Invited speaker** at the 2nd International Conference on Computational Science and Engineering, Ho Chi Minh City, Vietnam, August 21-23, 2014: Solution methods for equilibrium problems based on merit functions.

36. EUROPT Workshop on Advances in Continuous Optimization, Perpignan, July 10-12, 2014: A gap function approach for quasi-equilibrium problems.

37. EURO Conference 2013, Roma, July 1-4, 2013: Descent and approximation techniques for solving equilibrium problems.

38. EUROPT Workshop on Advances in Continuous Optimization, Firenze, June 26-28, 2013: Generalized Nash Equilibria for Platform-as-a-Service Clouds.

39. International Symposium on Mathematical Programming, Berlin, August 19-24, 2012: Gap functions and penalization for solving equilibrium problems with nonlinear constraints.

40. First French-Italian Workshop on energy markets and models, Brescia, March 19-20, 2012: Generalized Nash Equilibria for the Service Provisioning Problem in Cloud Systems.

41. Workshop "Nonlinear optimization, variational inequilties and equilibrium problems", Centro per la Cultura Scientifica "E. Majorana", Erice, July 2-10, 2010: Gap functions and penalization for solving equilibrium problems with nonlinear constraints.

42. EURO Conference 2009, Bonn, July 5-8, 2009: A globally convergent descent method for nonsmooth variational inequlities.

43. Workshop "Nonsmooth analysis, Optimization and Applications", Centro per la Cultura Scientifica "E. Majorana", Erice, May 9-17, 2008: A successive quadratic programming method for nonsmooth variational inequalities.

44. Workshop "New Problems and Innovative Methods in Nonlinear Optimization", Centro per la Cultura Scientifica "E. Majorana", Erice, July 31 - August 9, 2007: Equivalent unconstrained optimization problems for generalized variational inequalities.

45. International Symposium on Mathematical Programming, Rio de Janeiro, July 30 - August 4, 2006: A path-based double projection method for solving the asymmetric traffic network equilibrium problem.

46. SIAM Optimization Conference, Stoccolma, May 16-19, 2005: A path-based extragradient algorithm for network equilibrium problems.

47. Workshop "Large scale nonlinear optimization", Centro per la Cultura Scientifica "E.Maiorana", Erice, June 22 - July 1, 2004: A path-based extragradient algorithm for network equilibrium problems.

48. Workshop "Variational Analysis and applications", Centro per la Cultura Scientifica "E.Maiorana", Erice, June 20 - July 1, 2003: Nash equilibria and generalized variational inequalities.

49. Workshop "Optimization and control with applications", Centro per la Cultura Scientifica "E. Maiorana", Erice, July 9-17, 2001: Stability for equilibrium problems: from variational inequalities to dynamical systems.

50. Workshop "Equilibrium problems and variational models", Centro per la Cultura Scientifica "E. Maiorana", Erice, June 23 - luglio 2, July: Equilibrium concepts in transportation networks: generalized Wardrop conditions and variational formulations.

Reviewer activity

– Reviewer for the Italian Evaluation of Research Quality (VQR 2020-2024).
– Reviewer for the Italian Evaluation of Research Quality (VQR 2015-2019).
– Proposal reviewer for the Joint Mobility Program MIUR-DAAD in 2017.
– Proposal reviewer for the National Science Foundation (USA) in 2015.
– Member of the Program Committee of the following international conferences:
15th International Conference on Operations Research and Enterprise Systems (ICORES 2026), 9-11 March 2026, Marbella, Spain; 14th International Conference on Operations Research and Enterprise Systems (ICORES 2025), 23-25 February 2025, Porto, Portugal; 13th International Conference on Operations Research and Enterprise Systems (ICORES 2024), 24-26 February 2024, Rome, Italy; 14th EAI International Conference on Intelligent Technologies for Interactive Entertainment (EAI Intetain 2023), 27 November 2023, Lucca, Italy; 12th International Conference on Operations Research and Enterprise Systems (ICORES 2023), 19-21 February 2023, Lisbon, Portugal; 11th International Conference on Operations Research and Enterprise Systems (ICORES 2022), 3-5 February 2022, Online streaming; 10th International Conference on Operations Research and Enterprise Systems (ICORES 2021), 4-6 February 2021, Online streaming; 9th International Conference on Operations Research and Enterprise Systems (ICORES 2020), 22-24 February 2020, Valletta, Malta; 8th International Conference on Operations Research and Enterprise Systems (ICORES 2019), 19-21 February 2019, Prague, Czech Republic; 7th International Conference on Operations Research and Enterprise Systems (ICORES 2018), 24-26 January 2018, Funchal, Madeira, Portugal.
– Reviewer for the following international conferences: Sixth International Conference on Information and Communication Technology for Competitive Strategies (ICTCS-2021), 17-18 December, 2021, Jaipur, Rajasthan, India; International Conference on Automation and Computing (ICAC 2014), 12-13 September 2014, Craneld University, Craneld, UK; Applied Mathematics, Modelling and Computational Science (AMMCS 2013), 26-30 August 2013, Waterloo, Canada.
– Reviewer for the following international journals: 4OR, Calcolo, European Journal of Operational Research, IEEE Transactions on Cloud Computing, IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Mobile Computing, IEEE Transactions on Services Computing, IEEE Transactions on Vehicular Technology, INFORMS Journal on Computing, Journal of Global Optimization, Journal of Optimization Theory and Applications, Journal of Parallel and Distributed Computing, Mathematical Programming, Nonlinear Analysis, Optimization, Optimization Letters, Optimization Methods and Software, Set-Valued and Variational Analysis, SIAM Journal on Control and Optimization.
– Reviewer of 5 Ph.D. dissertations (University of Catania, University of Florence, University of Padova, Sapienza University of Rome).

Organization of Workshops/Conferences

– Workshop "Mathematical Models and Computational Methods for Complex Networks", Pisa, Department of Computer Science, June 6-7, 2016.
– Conference AIRO 2015 - 45th Annual Conference of the Italian Operational Research Society, Pisa, September 7-10, 2015 (Chair of the Organizing Committee).
– Workshop "Talking about variational inequalities, equilibria and neighbouring problems", Pisa, Department of Computer Science, May 29-30, 2014.

Teaching activity

2025/26: "Dinamica dei Sistemi Aziendali" (5 ECTS), Master Degree in Business and Economics; "Ricerca Operativa e Pianificazione delle Risorse" (8 ECTS) – exercise session, Bachelor Degree in Computer Science; "Decision Models" (5 ECTS) – exercise session, Master Degree in Data Science; "Machine learning and optimization", Master Degree in Business and Economics.

2024/25: "Dinamica dei Sistemi Aziendali" (5 ECTS), Master Degree in Business and Economics; "Ricerca Operativa e Pianificazione delle Risorse" (8 ECTS) – exercise session, Bachelor Degree in Computer Science; "Decision Models" (5 ECTS) – exercise session, Master Degree in Data Science;

"Algorithmic Non-cooperative Game Theory", PhD in Computer Science; Advisor of 6 master thesis.

2023/24: "Dinamica dei Sistemi Aziendali" (5 ECTS), Master Degree in Business and Economics; "Ricerca Operativa e Pianificazione delle Risorse" (8 ECTS) – exercise session, Bachelor Degree in Computer Science; "Decision Models" (5 ECTS), Master Degree in Data Science; Advisor of 1 master thesis.

2022/23: "Dinamica dei Sistemi Aziendali" (5 ECTS), Master Degree in Business and Economics; "Ricerca Operativa e Pianificazione delle Risorse" (8 ECTS) – exercise session, Bachelor Degree in Computer Science; "Decision Models" (5 ECTS) – exercise session, Master Degree in Data Science; Advisor of 2 master thesis.

2021/22: "Ricerca Operativa" (6 ECTS), Bachelor Degree in Computer Science; "Optimization Methods and Game Theory" (6 ECTS), Master Degree in Artificial Intelligence and Data Engineering; Advisor of 2 thesis.

2020/21: "Ricerca Operativa" (6 ECTS), Bachelor Degree in Computer Science; "Optimization Methods and Game Theory" (6 ECTS), Master Degree in Artificial Intelligence and Data Engineering.

2019/20: "Ricerca Operativa" (6 ECTS), Bachelor Degree in Computer Science; "Optimization Methods and Game Theory" (6 ECTS), Master Degree in Artificial Intelligence and Data Engineering.

2018/19: "Ricerca Operativa" (6 ECTS), Bachelor Degree in Computer Science; "Optimization Methods" (6 ECTS), Master Degree in Embedded Computing Systems.

2017/18: "Operations Research", visiting professor at École des Mines de Nancy - Université de Lorraine (France); "Optimization Methods" (6 ECTS), Master Degree in Embedded Computing Systems.

2016/17: "Optimization" (6 ECTS), Master Degree in Computer Science; "Operations Research", visiting professor at École des Mines de Nancy - Université de Lorraine (France); "Optimization Methods" (6 ECTS), Master Degree in Embedded Computing Systems.

2015/16: "Ricerca Operativa" (6 ECTS) – exercise session, Bachelor Degree in Computer Science; "Optimization Methods" (6 ECTS), Master Degree in Embedded Computing Systems.

2014/15: 'Ricerca Operativa" (6 CFU) – exercise session, Bachelor Degree in Computer Science; "Optimization Methods" (6 ECTS), Master Degree in Embedded Computing Systems.

2013/14: "Ricerca Operativa II" (6 ECTS), Master Degree in Management Engineering; "Optimization Methods" (6 ECTS) – exercise session, Master Degree in Embedded Computing Systems.

2012/13: "Precorso di Matematica", Faculty of Engineering; "Ricerca Operativa II" (6 ECTS), Master Degree in Management Engineering; "Optimization Methods" (6 ECTS) – exercise session, Master Degree in Embedded Computing Systems; Advisor of 3 master thesis.

2011/12: "Precorso di Matematica", Faculty of Engineering; "Ricerca Operativa II" (6 ECTS), Master Degree in Management Engineering; Advisor of 3 thesis and 1 master thesis; Examiner for the order of Engineers admission; Member of Ph.D. defense committee, Ph.D. in Computer and Automation Engineering, University of Florence.

2010/11: "Precorso di Matematica", Faculty of Engineering; "Ricerca Operativa II" (6 ECTS), Master Degree in Management Engineering; Advisor of 3 thesis.

2009/10: "Precorso di Matematica", Faculty of Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS), Master Degree in Management Engineering and Computer Engineering for Business Management; "Algebra lineare e Analisi Matematica II" (12 ECTS) – exercise session, Bachelor Degree in Management Engineering; Advisor of 2 thesis.

2008/09: "Precorso di Matematica", Faculty of Engineering; "Analisi Matematica I" (12 ECTS), Faculty of Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management.

2007/08: "Precorso di Matematica", Faculty of Engineering; "Programmazione Matematica A/K" (12 ECTS), Bachelor Degree in Computer Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management; Advisor of 1 thesis.

2006/07: "Precorso di Matematica", Faculty of Engineering; "Programmazione Matematica A/K" (12 ECTS), Bachelor Degree in Computer Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management; Advisor of 1 master thesis.

2005/06: "Precorso di Matematica", Faculty of Engineering; "Programmazione Matematica A/K" (12 ECTS), Bachelor Degree in Computer Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management.

2004/05: "Precorso di Matematica", Faculty of Engineering; "Programmazione Matematica A/K" (12 ECTS), Bachelor Degree in Computer Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management; Advisor of 1 thesis.

2003/04: "Precorso di Matematica", Faculty of Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management; Advisor of 3 thesis.

2002/03: "Precorso di Matematica", Faculty of Engineering; "Metodi e modelli matematici di ottimizzazione per l'organizzazione e la gestione" (5 ECTS) – exercise session, Master Degree in Management Engineering and Computer Engineering for Business Management.

Milano, 1 February 2026.