

# Curriculum Vitae et Studiorum

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## PERSONAL DATA

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<i>Surname and First Name</i>	Guastaroba Gianfranco
<i>Place and Date of Birth</i>	Brescia, 9th June 1977
<i>Nationality</i>	Italian
<i>Address</i>	via San Zenone, 60/10 – 25064 - Gussago (BS), Italy
<i>Telephone (Home)</i>	+39 030 2524037
<i>Telephone (Work)</i>	+39 030 2988588
<i>E-mail</i>	gianfranco.guastaroba@unibs.it
<i>Home Page Unibs</i>	www.unibs.it/ugov/person/3386
<i>Google Scholar</i>	<a href="https://scholar.google.com/citations?user=f3akmTAAAAAJ">scholar.google.com/citations?user=f3akmTAAAAAJ</a>
<i>ResearchGate</i>	<a href="https://www.researchgate.net/profile/Gianfranco_Guastaroba">www.researchgate.net/profile/Gianfranco_Guastaroba</a>
<i>Scopus</i>	<a href="https://www.scopus.com/authid/detail.uri?authorId=24773199900">www.scopus.com/authid/detail.uri?authorId=24773199900</a>
<i>ORCID</i>	<a href="https://orcid.org/0000-0002-7810-4112">orcid.org/0000-0002-7810-4112</a>

## EDUCATION

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### UNDERGRADUATE STUDIES

**29th October 2002.** He graduated in Economics at the University of Brescia, Brescia, Italy.

Thesis Title: “Modelli di ottimizzazione di portafoglio: Una applicazione della teoria del “Value at Risk”” (Portfolio optimization models: An application of the Value-at-risk theory).

Final mark: 110/110 cum laude (highest possible grade in the Italian system).

**March 2004:** His master thesis “Modelli di Ottimizzazione di Portafoglio: Una Applicazione della Teoria del “Value at Risk”” has been awarded by the Istituto Lombardo Accademia di Scienze e Lettere, Milan, Italy.

### POSTGRADUATE STUDIES (PH.D. AND MPhil)

**1st January 2007 – 31st December 2009:** he was a Ph.D. student in the program “Computational Methods for Economical and Financial Forecasting and Decisions” at the *University of Bergamo* (Italy). Advisor: Prof. M. Grazia Speranza.

**5th September 2007 – 13rd September 2008:** he was a research student at the *Brunel University* – West London, London, UK. Supervisor: Prof. Gautam Mitra. The research activity has been carried out at the “Centre for the Analysis of Risk and Optimisation Modelling (CARISMA)”

**27th April 2009:** he has been awarded the “*Master of Philosophy*” (MPhil) degree in the area of “Mathematics Research” from the *Brunel University*, West London, London, United Kingdom. MPhil thesis title “Investigating the Effectiveness of Robust Portfolio Optimization”. Supervisor: Prof. Gautam Mitra.

**16th February 2010:** he has been awarded the *Ph.D. degree* in “Computational Methods for Economical and Financial Forecasting and Decisions” from the *University of Bergamo* (Italy). Ph.D. thesis title: “Portfolio Optimization: Scenario Generation, Models and Algorithms”.

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**WORKING  
EXPERIENCE**

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**CURRENT POSITION**

**From the 28th of September 2017,** he is a *research assistant* (in Italian, “Ricercatore “junior” di tipo A - ai sensi dell’art 24 (comma 3) lettera a) della legge 240/10”) in Operations Research with a temporary position (36 months) at the Department of Economics and Management, University of Brescia (Italy).

**FORMER POSITIONS**

**1st April 2005 – 30th September 2006:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 18 months at the Department of Quantitative Methods, University of Brescia (Italy), working on the project “Portfolio Optimization Models”.

**1st January 2010 – 31st March 2011:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 15 months at the Department of Quantitative Methods, University of Brescia (Italy), working on the project “Models and Algorithms for Logistics Problems”.

**1st April 2011 – 31st March 2012:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 12 months at the Department of Quantitative Methods, University of Brescia (Italy), working on the project “Models and Algorithms for Logistics Problems”.

**1st April 2012 – 31st March 2013:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 12 months at the Department of Quantitative Methods, University of Brescia (Italy), working on the project “Models and Algorithms for Logistics Problems”.

**1st May 2013 – 31st October 2013:** he was a *research collaborator* (in Italian, “collaboratore professionale a progetto per lo svolgimento di attività di supporto alla ricerca”) at the Department of Economics and Management, University of Brescia (Italy), working on the project “Models and Algorithms for Optimizing Logistics”.

**1st November 2013 – 31st October 2014:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 12 months at the Department of Economics and Management, University of Brescia (Italy), working on the project “Green Logistics: Models and Methods”.

**1st November 2014 – 31st October 2015:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 12 months at the Department of Economics and Management, University of Brescia (Italy), working on the project "Models, Methods and Worst-Case Analysis for Logistics Problems".

**1st December 2015 – 30th November 2016:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) for 12 months at the Department of Economics and Management, University of Brescia (Italy), working on the project "Reducing Environmental Impacts of Transporting Goods and People".

**1st December 2016 – 27th September 2017:** he was a *postdoc* (in Italian, “Assegnista di Ricerca”) at the Department of Economics and Management, University of Brescia (Italy), working on the project "Variability and Uncertainty in Logistics".

#### CONSULTING ACTIVITY

In 2011, he worked as a consultant for the Servizi Territorio s.r.l. (a company located in Cinisello Balsamo, Milan, Italy). He designed and implemented an optimization model for the management of a “total Energy” system.

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#### ITALIAN SCIENTIFIC QUALIFICATION (ABILITAZIONE SCIENTIFICA NAZIONALE)

He was awarded the Italian Scientific Qualification for the role of Associate Professor in the discipline: 01/A6 Operations Research (S.S.D. MAT/09) valid from 30/03/2017 to 30/03/2026;

He was awarded the Italian Scientific Qualification for the role of Associate Professor in the discipline: 13/D4 Mathematical Methods for Economy and Finance (S.S.D. SECS-S/06) valid from 05/04/2017 to 05/04/2026.

## SCIENTIFIC ACTIVITY

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### PAPERS

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### PUBLICATIONS IN PEER-REVIEW JOURNAL AND BOOK CHAPTERS

[P1] Guastaroba G., Mansini R., and Speranza M.G., “Models and Simulations for Portfolio Rebalancing”, *Computational Economics*, 33: 237-262, 2009. DOI: 10.1007/s10614-008-9158-y.

[P2] Guastaroba G., Mansini R., and Speranza M.G., “On the Effectiveness of Scenario Generation Techniques in Single-Period Portfolio Optimization”, *European Journal of Operational Research*, 192: 500-511, 2009. DOI: 10.1016/j.ejor.2007.09.042.

[P3] Guastaroba G., Mansini R., and Speranza M.G., “Modeling the Pre-Auction Stage: The Truckload Case”, in: L. Bertazzi, M.G. Speranza and J.A.E.E van Nunen (eds.). *Innovations in Distribution Logistics, Lecture Notes in Economics and Mathematical Systems*, Volume 619, 219-233, 2009. DOI: 10.1007/978-3-540-92944-4\_11.

[P4] Guastaroba G., Mitra G., and Speranza M.G., “Investigating the Effectiveness of Robust Portfolio Optimization Techniques”, *Journal of Asset Management*, 12: 260-280, 2011. DOI: 10.1057/jam.2011.7.

[P5] Guastaroba G. and Speranza M.G., “Kernel Search: An Application to the Index Tracking Problem”, *European Journal of Operational Research*, 271: 54-68, 2012. DOI: 10.1016/j.ejor.2011.09.004.

[P6] Guastaroba G. and Speranza M.G., “Kernel Search for the Capacitated Facility Location Problem”, *Journal of Heuristics*, 18: 877-917, 2012. DOI: 10.1007/s10732-012-9212-8.

[P7] Cerquetti R., Falbo P., Guastaroba G., and Pelizzari C., “A Tabu Search Heuristic Procedure in Markov Chain Bootstrapping”, *European Journal of Operational Research*, 227: 367-384, 2013. DOI: 10.1016/j.ejor.2012.11.009.

[P8] Archetti C., Guastaroba G., and Speranza M.G., “Reoptimizing the Rural Postman Problem”, *Computers & Operations Research*, 40: 1306-1313, 2013. DOI: 10.1016/j.cor.2012.12.010.

[P9] Archetti C., Guastaroba G., and Speranza M.G., “An ILP-Refined Tabu Search for the Directed Profitable Rural Postman Problem”, *Discrete Applied Mathematics*, 163: 3-16, 2014. DOI: 10.1016/j.dam.2012.06.002.

[P10] Guastaroba G. and Speranza M.G., “A Heuristic for BILP Problems: The Single Source Capacitated Facility Location Problem”, *European Journal of Operational Research*, 238: 438-450, 2014. DOI: 10.1016/j.ejor.2014.04.007.

[P11] Cerquetti R., Falbo P., Guastaroba G., and Pelizzari C., “Approximating Markov Chains for Bootstrapping and Simulation”, in: A. Steland, E. Rafajłowicz, K. Szajowski (eds.). *Stochastic Models, Statistics and Their Applications*, Volume 122, 371-379, 2015. DOI: 10.1007/978-3-319-13881-7\_41.

[P12] Cuda R., Guastaroba G., and Speranza M.G., “A Survey on Two-Echelon Routing Problems”, *Computers & Operations Research*, 55: 185-199, 2015. DOI: 10.1016/j.cor.2014.06.008.

[P13] Cerquetti R., Falbo P., Guastaroba G., and Pelizzari C., “Approximating Multivariate Markov chains for Bootstrapping through Contiguous Partitions”, *OR Spectrum*, 37: 803–841, 2015. DOI: 10.1007/s00291-015-0397-8.

[P14] Guastaroba G., Speranza M.G., and Vigo D., “Intermediate Facilities in Freight Transportation Planning: A Survey”, *Transportation Science*, 50: 763–789, 2016. DOI: 10.1287/trsc.2015.0631.

[P15] Guastaroba G., Mansini R., Ogryczak, W., and Speranza M.G., “Linear Programming Models based on Omega Ratio for the Enhanced Index Tracking Problem”, *European Journal of Operational Research*, 251: 938–956, 2016. DOI: 10.1016/j.ejor.2015.11.037.

[P16] Filippi C., Guastaroba G., and Speranza M.G., “A Heuristic Framework for the Bi-Objective Enhanced Index Tracking Problem”, *OMEGA*, 65: 122–137, 2016. DOI: 10.1016/j.omega.2016.01.004.

[P17] Cote’ J.F., Guastaroba G., and Speranza M.G., “The Value of Integrating Loading and Routing”, *European Journal of Operational Research*, 257: 89–105, 2017. DOI: 10.1016/j.ejor.2016.06.072.

[P18] Guastaroba G., Savelsbergh M., and Speranza M.G., “Adaptive Kernel Search: A Heuristic for Solving Mixed Integer Linear Programs”, *European Journal of Operational Research*, 263: 789–804, 2017. DOI: 10.1016/j.ejor.2017.06.005.

[P19] Filippi C., Guastaroba G., and Speranza M.G., “On Single-Source Capacitated Facility Location with Cost and Fairness Objectives”, accepted in *European Journal of Operational Research*. DOI: 10.1016/j.ejor.2019.07.045.

[P20] Filippi C., Guastaroba G., and Speranza M.G., “Conditional Value-at-Risk Beyond Finance: A Survey”, *International Transactions in Operational Research*, 27: 1277–1319, 2020. DOI: 10.1111/itor.12726.

[P21] Guastaroba G., Mansini R., Ogryczak, W., and Speranza M.G., “Enhanced Index Tracking with CVaR-Based Measures”, accepted in *Annals of Operations Research*. DOI: 10.1007/s10479-020-03518-7.

#### **PAPER SUBMITTED TO PEER-REVIEW JOURNALS**

[SP1] Filippi C., Guastaroba G., Huerta-Muñoz, D.L., and Speranza M.G., “A Kernel Search Heuristic for a Fair Facility Location Problem”, submitted to *Computers & Operations Research*.

[SP2] Coelho L.C., Cote’ J.F., and Guastaroba G., “Multi-Period Routing and Scheduling of Skilled Workforce Crews”, submitted to *OMEGA*.

## WORKING PAPERS

[WP1] Archetti C., Guastaroba G., Huerta-Muñoz, D.L., and Speranza M.G., “A Kernel Search Heuristic for the Multi-Vehicle Inventory Routing Problem”.

[WP2] Archetti C., Bruglieri M., Guastaroba G., and Speranza M.G., “A Request-Driven Car Sharing System”.

[WP3] Coelho L.C., Cote’ J.F., and Guastaroba G., “A Branch-and-Price Algorithm for the Multi-Period Routing and Scheduling of Skilled Workforce Crews”.

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## PH.D. AND MPHIL THESIS

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[T1] Guastaroba G., “Portfolio Optimization: Scenario Generation, Models and Algorithms”. Ph.D. Thesis, University of Bergamo, Italy, 2010.

[T2] Guastaroba G., “Investigating the Effectiveness of Robust Portfolio Optimization”. MPhil Thesis, Brunel University, West London, United Kingdom, 2009.

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## RESEARCH ACTIVITY CONDUCTED ABROAD

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**5 September 2007 – 13 September 2008:** He was a *research student* at the Brunel University – West London – London, UK. He conducted his research activities at “The Centre for the Analysis of Risk and Optimisation Modelling (CARISMA)” under the supervision of Prof. Gautam Mitra.

**16 March 2015 – 12 May 2015:** he was a *visiting researcher* at the Centre Interuniversitaire de Recherche sur les Réseaux d’Entreprise, la Logistique et le Transport (CIRRELT), Université Laval (Quebec City, Canada), invited by Prof. J.F. Cote’ e L.C. Coelho.

**11 July 2017 – 24 July 2017:** he was a *visiting researcher* at the Centre Interuniversitaire de Recherche sur les Réseaux d’Entreprise, la Logistique et le Transport (CIRRELT), Université Laval (Quebec City, Canada), invited by Prof. J.F. Cote’ e L.C. Coelho.

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## REVIEWER

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He has served as a *reviewer* for several international journals, such as: 4OR, Annals of Operations Research, Asia-Pacific Journal of Operational Research, Central European Journal of Operations Research, Computational Management Science, Computers & Operations Research, Emerging Markets Finance and Trade, Engineering Applications of Artificial Intelligence, EURO Journal on Transportation and Logistics, European Journal of Operational Research, European Physical Journal B, International Journal of Production Research, International Transactions in Operational Research, Journal of Banking and Finance, Journal of Economic Dynamics and Control, Journal of Global Optimization, Journal of the Operational Research Society, Journal of Sports Analytics, Management Science, Mathematical Problems in Engineering, Naval Research Logistics, Networks, OMEGA, Optimization,

Quantitative  
Finance, il

volume Springer dal titolo "Innovations in Distribution Logistics", TOP e  
Transportation Science.

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REVIEWER FOR  
SCIENTIFIC  
PROJECTS

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He has served as a *reviewer* for two research proposals submitted for the  
“NSERC Discovery Grant Program” (Canada).

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SPEAKER IN  
CONFERENCES  
AND  
WORKSHOPS

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[C1] **26 January 2007:** he presented the research “On the Effectiveness of  
Scenario Generation Techniques in Single-Period Portfolio Optimization” at  
the workshop “Metodi di Bootstrapping di Serie Finanziarie”. University of  
Brescia, Brescia, Italy.

[C2] **08-11 July 2007:** he presented the research “On the Use of CVaR Models  
in a Rebalancing Portfolio Strategy” at the 22nd European Conference on  
Operational Research - EURO XXII, Prague, Czech Republic.

[C3] **08-11 September 2009:** he presented the research “Metaheuristics for  
the Selective Arc Routing Problem with Penalties” at the conference “AIRO  
2009”, Siena, Italy

[C4] **28-30 June 2010:** he presented the research “An ILP-Refined Tabu  
Search for the Selective Arc Routing Problem with Penalties” at the  
conference Matheuristic 2010, Vienna, Austria.

[C5] **01-04 September 2010:** he presented the research “A Tabu Search  
Solution in Markov Chain Bootstrapping” at the conference AMASES 2010,  
Macerata, Italy.

[C6] **18-20 June 2012:** he presented the research “An ILP-refined Tabu  
Search for the Directed Profitable Rural Postman Problem” at the 1st Meeting  
of the EURO Working Group on Vehicle Routing and Logistics Optimization  
(VeRoLog 2012), Bologna, Italy.

[C7] **01-04 July 2013:** he presented the research “Kernel Search for  
Capacitated Facility Location Problems” at the 26th European Conference on  
Operational Research - EURO | INFORMS MMXIII, Rome, Italy.

[C8] **07-10 July 2013:** he presented the research “Kernel Search for  
Capacitated Facility Location Problems” at the 2nd Meeting of the EURO  
Working Group on Vehicle Routing and Logistics Optimization (VeRoLog  
2013), Southampton, UK.

[C9] **22-25 June 2014:** he presented the research “Kernel Search for  
Capacitated Facility Location Problems” at the 3rd Meeting of the EURO  
Working Group on Vehicle Routing and Logistics Optimization (VeRoLog  
2014), Oslo, Norway.

[C10] **26 Aprile 2015:** he has been invited to give a seminar titled “Kernel  
Search for Facility Location Problems” at the CIRRELT, Université Laval,  
Quebec City, Canada.

[C11] **08-10 June 2015:** he presented the research “The Value of Integrating Loading and Routing” at the 4th Meeting of the EURO Working Group on Vehicle Routing and Logistics Optimization (VeRoLog 2015), Vienna, Austria.

[C12] **12-15 July 2015:** he presented the research “Linear Programming Models based on Omega Ratio for the Enhanced Index Tracking Problem” at the 27th European Conference on Operational Research - EURO 2015, Glasgow, UK.

[C13] **17-21 July 2017:** he presented the research “Adaptive Kernel Search: A Heuristic for Solving Mixed Integer Linear Programs” at the conference of the International Federation of Operational Research Societies “IFORS 2017”, Québec City, Canada.

[C14] **03-08 June 2018:** he presented the research “The Value of Integrating Loading and Routing”, at the 7th International Workshop on Freight Transportation and Logistics (Odysseus 2018), Cagliari, Italy.

[C15] **02-05 June 2019:** he presented the research “A Kernel Search Heuristic for the Multi-Vehicle Inventory Routing Problem”, at the 7th Meeting of the EURO Working Group on Vehicle Routing and Logistics Optimization (VeRoLog 2019), Seville, Spain.

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## ORGANIZING ACTIVITY

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[OA1] He was a **member of the Organizing Committee** and **scientific secretary** of the workshop “International Workshop on Distribution Logistics 2006 – IWDL 2006”, Brescia, Italy, 2-4 October 2006.

[OA2] He was a **member of the Organizing Committee** of the Conference “AIRO 2011”, Brescia, Italy, 6-9 September 2011.

[OA3] He was a **member of the Organizing Committee** of the “EURO PhD School on Routing and Logistics”, Brescia, Italy, 24 June – 3 July 2015.

[AO4] He was **assistant of the Program Committee Chair** (Prof. M. Grazia Speranza) at the conference of the International Federation of Operational Research Societies “IFORS 2017”, Québec City, Canada, 17– 21 July 2017.

[AO5] He was **chair of the session** called Matheuristics at the conference of the International Federation of Operational Research Societies “IFORS 2017”, Québec City, Canada, 17– 21 July 2017.

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## MEMBERSHIP IN RESEARCH GROUPS

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[GR1] He is member of the Operational Research Group at the University of Brescia.  
Homepage of the research group: <http://or-brescia.unibs.it>



## Teaching Activity

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### TEACHING RESPONSIBILITY

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**Since 2017**, he is the teacher of a module of 20 hours within the class of “Operations Research” at the Department of Economics and Management, University of Brescia, Brescia, Italy.

**Since 2017**, he is the teacher of the class of “Information Technology” at the Department of Economics and Management, University of Brescia, Brescia, Italy.

**Since 2019**, he is the teacher of the class of “Operations Management” at the Department of Economics and Management, University of Brescia, Brescia, Italy.

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### TEACHING ASSISTANCE

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**Since 2002**, he is a *teaching assistant* at the University of Brescia, Brescia, Italy, teaching lectures on the use of specific software packages (e.g., Java, Excel, MS Project, MPL) and on solving exercises with the methods presented at theoretical lectures, mainly for the course of “Operations Research”.

Since 2002, he is collaborating to the preparation and grading of exams, mainly for the course of “Operations Research” at the Department of Economics and Management, University of Brescia, Brescia, Italy.

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### SUPERVISION OF STUDENTS

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He was a *research co-supervisor* of the *Ph.D. student Rosario Cuda*, a student enrolled at the Ph.D. school in Economics, Applied Mathematics and Operational Research at the University of Bergamo, Italy (Ph.D. advisor: Prof. M. Grazia Speranza). Ph.D. thesis title: “Two-Echelon Location Routing Problems: State of the Art, Models and Algorithms”. It was defended in February 2014.

He has been the supervisor of several undergraduate students during the preparation of their bachelor and master thesis at the Department of Economics and Management, University of Brescia, Brescia, Italy.

## SCIENTIFIC AND INDUSTRIAL PROJECTS

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### PARTICIPATION IN PROJECTS

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He participated to several scientific and industrial projects. In particular:

[PP1] **PRIN 2007**: “New Developments in Vehicle Routing Problems”.

[PP2] **e-Log**: “Automazione e Controllo nei Processi della Logistica Portuale” where heuristic and exact solution methods to manage the routing of vehicles have been designed and implemented.

[PP3] **INLOCO**: “INnovazione LOGistica COordinata” where methods to coordinate efficiently supply and demand in the sector of maritime transport have been developed.

[PP4] **IMPULSO**: “Modelli e algoritmi per il supporto alle decisioni di spedizionieri e di vettori” where optimization models and solution algorithms have been designed and implemented to support shippers and carriers.

[PP5] **PRIN 2009**: “Advanced Models and algorithms for vehicle routing problems”.

[PP6] **ILDIF**: “Integration of direct and reverse logistics of fresh products” (July 2014 – June 2016).

[PP7] **PRIN 2015**: “Transportation and Logistics Optimization in the Era of Big and Open Data”.

[PP8] **SMASH**: He participated in writing the proposal for the project called “SMASH: SMArt platform to enabling high performance processes in faSHion's supply chains” funded by the Regione Lombardia.

He was *co-responsible* of the SMASH project, together with Prof. M. Grazia Speranza, for the research unit of the University of Brescia.

Period: from 15th November 2016 to 15th March 2019.

Amount funded for the University of Brescia: 73322 Euro.

[PP9] **MoSoRe**: “Infrastructures and services for the sustainable and resilient mobility”.

[PP10] “For an improved safety of pedestrians and cyclists”.

## PERSONAL SKILLS

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MOTHER  
TONGUE

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ITALIAN

OTHER  
LANGUAGES

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ENGLISH

Understanding: excellent (reading), excellent (listening).

Speaking: excellent.

Writing: excellent.

FRENCH

Understanding: basic (reading), basic (listening).

Speaking: basic.

Writing: basic.

COMPUTER  
SKILLS

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PROGRAMMING LANGUAGES

C, C++, Java, VBA.

DEVELOPMENT ENVIRONMENTS

Visual Studio, NetBeans.

SOLVERS

CPLEX (and Concert Technology), FORTMP, LP\_SOLVE.

OPTIMIZATION SOFTWARE

MPL, AMPLStudio

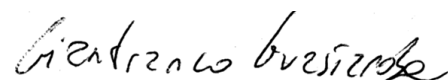
OTHER SOFTWARE

Datastream and Datastream Advance, WinEdt, Scientific Workplace, TeXnicCenter, MSOffice, LibreOffice, Microsoft Project, PcGive and GiveWin, Eviews, SAS (basic), R (basic), Matlab (basic).

OPERATING SYSTEMS

Ms Dos, MSWindows 95, 98, 2000, NT, XP, Vista, Windows 7, Windows 8 and Windows 10.

Brescia,  
Last update: 29 April 2020



Guastaroba Gianfranco