

# Guido Perboli

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## PERSONAL DATA

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## EDUCATION

2002                Ph.D. in Computer Engineering - Politecnico di Torino, Torino (Italy) -  
                          Cospervised by the CIRRELT (formerly CRT) Center, Montreal, Canada  
1999                Master degree in Computer Engineering - Politecnico di Torino, Torino (Italy)

## SHORT BIO

Guido Perboli is Associate Professor in the Control and Computer Engineering Department (DAUIN) of Politecnico di Torino and Associate Member of the CIRRELT - Centre Interuniversitaire de Recherche sur les Réseaux d'Enterprise, la Logistique et les Transport - Québec, Canada. He is presently in charge of the courses of Strategic Management and Operations Research in the Industrial Production and Innovation Management Master degree. He is presently in charge of different activities, including the student exchange program with UQAM, Montreal, and TOP EXPERIENCES, a series of lectures given by high-level managers and member of the Board of the Italian Amazon Innovation Award.

In 2016 he founded the ICT for City Logistics and Enterprises (ICE) center of Politecnico di Torino, a research center focused on two of the main activities supporting the Urban growth: logistics and enterprises. He is presently director of the ICE center. He is author of more than 100 papers on peer reviews International journals and Conferences (see <http://staff.polito.it/guido.perboli/> for the detailed list). His main areas of expertise are Business development and Lean Business, City Logistics and Smart City, Green logistics and impact assessment of externalities reduction policies in Supply Chains, Urban Freight delivery, Container and Vehicle Packing, Fleet Routing and Management.

He is also member of scientific boards and awards, including the Scientific Board of SOS Log (<http://www.sos-logistica.org/en>), the main Italian association of Sustainable Logistics, the Digital Hub of Compagnia delle Opere, an association of enterprises with more than 30000 companies, and the Amazon Innovation Award, the international award of Amazon on the themes of Last Mile and Delivery Optimization.

Since 1998 he is consultant for National and International companies, including Amazon, Accenture, DHL, Emerson Network Power, FCA, Iveco, Italdesign, Panalpina, Porche, Rhona, Telecom Italia, Tales Alenia Spazio, and TNT.

## ——— MAIN RESEARCH TOPICS

### **Business models and Lean Business**

The issue of controlling and evaluating the decision making processes in Multi-Actor complex Systems (MACSs) is a well known challenge in the literature. The issue becomes more and more interesting when the actors are characterized by different backgrounds, introducing behavioural aspects to the complexity due to the inter-correlation between the actors themselves. In order to cope this issue, my research goes toward the integration between the business processes and models with the operational ones by Lean startup tools. This led to the definition of GUEST, a Lean Business methodology able to cope from the early definition of the idea up to the factual implementation, while reducing the time-to-market and increasing the co-creation level of the people involved in the innovation process. The methodology was used in different environments, including food and beverage (Lavazza), automotive (FCA, IVECO), public companies (CIDIU), energy (Emerson Power), Parcel delivery (TNT, DHL, PonyZero).

### **Smart Cities and City Logistics**

The research focused on the integration of optimization procedures in the supply chain of freight transportation in urban areas, and on Last Mile Logistics in particular. This is a major challenge, due to the peculiarities of the Last Mile Logistics and to the fact that different aspects (economical, environmental, social, behavioural) must be taken into account.

### **Operations management and Combinatorial Optimization**

In operations management, my research mainly focused on two specific aspects: packing, routing and stochastic programming.

*Packing and Loading.* New, fast and accurate lower bounds have been introduced for the Bin Packing problem. New approaches for the accommodation of items in two and three dimensions have been studied. By means of these new approaches, heuristic algorithms for the bin packing and container packing problems have been developed and tested, obtaining better results than the state of the art methods.

*Routing and fleet management.* A new family of VRP problems, the Multi-Echelon VRP problems, has been introduced. For the 2-Echelon version of these problems, models, exact and heuristic methods have been developed, including math-heuristics, cluster-based heuristics, and several cut families.

*Stochastic problems and management of uncertainty.* New deterministic approximations of stochastic problems. Those approximations are able both to give an accurate bound of the stochastic objective function and to predict the optimal stochastic decisions. Definition of new stochastic problems for

strategic and tactical decisions in supply chains and transportation systems.

## INDIVIDUAL SCIENTIFIC ACTIVITIES

### PUBLICATIONS

Index	Value
H-Index (Scopus)	14
Citations (Scopus)	793
H-Index (Google Scholar)	20
Citations (Google Scholar)	1722

Publication type	Number
1. Papers in peer-reviewed international journals	51
2. Book chapters	7
3. Books (authored)	0
4. Proceedings of peer-reviewed international conferences	39
5. Books and journal issues (edited)	0
6. Ph.D. thesis	1
7. Patents	0
8. Other	0
<b>Total</b>	<b>98</b>

#### 1. Papers in peer-reviewed international journals

- [Bal+19] M. M. Baldi, D. Manerba, G. Perboli, and R. Tadei. “A Generalized Bin Packing Problem for parcel delivery in last-mile logistics”. *European Journal of Operational Research*, 274.3, 2019, pp. 990–999.
- [MP19] D Manerba and G Perboli. “New solution approaches for the capacitated supplier selection problem with total quantity discount and activation costs under demand uncertainty”. *Computers and Operations Research*, 101, 2019, pp. 29–42.
- [PR19] G. Perboli and M. Rosano. “Parcel delivery in urban areas: Opportunities and threats for the mix of traditional and green business models”. *Transportation Research Part C: Emerging Technologies*, 99, 2019, pp. 19–36. URL: <https://doi.org/10.1016/j.trc.2019.01.006><https://linkinghub.elsevier.com/retrieve/pii/S0968090X19300221>.
- [Can+18] M. Cantamessa, V. Gatteschi, G. Perboli, and M. Rosano. “Startups’ Roads to Failure”. *Sustainability*, 10, 2018, p. 2346.
- [CPR18] T. G. Crainic, G. Perboli, and M. Rosano. “Simulation of intermodal freight transportation systems: a taxonomy”. *European Journal of Operational Research*, 270.2, 2018, pp. 401–418.
- [Fad+18] E. Fadda et al. “Waste Collection in Urban Areas: A Case Study”. *Interfaces*, 48.4, 2018. DOI: [10.1287/inte.2018.0943](https://doi.org/10.1287/inte.2018.0943).

- [Fer+18] F. Ferrero, G. Perboli, M. Rosano, and A. G. A. Vesco. "Car-sharing services: an annotated review". *SUSTAINABLE CITIES AND SOCIETY*, 37, 2018, pp. 501–518. DOI: <https://doi.org/10.1016/j.scs.2017.09.020>.
- [PMR18] G. Perboli, S. Musso, and M. Rosano. "Blockchain in Logistics and Supply Chain: A Lean Approach for Designing Real-World Use Cases". *IEEE Access*, 6, 2018, pp. 62018–62028. DOI: 10.1109/ACCESS.2018.2875782.
- [PR18] G. Perboli and M. Rosano. "A decision support system for optimizing the last-mile by mixing traditional and green logistics". *Lecture Notes in Business Information Processing*, 262, 2018, pp. 28–46.
- [PTF18] G. Perboli, R. Tadei, and E. Fadda. "New Valid Inequalities for the Two-Echelon Capacitated Vehicle Routing Problem". *Electronic Notes in Discrete Mathematics*, 64, 2018, pp. 75–84.
- [Per+18] G. Perboli, M. Rosano, M. Saint-Guillain, and P. Rizzo. "Simulation–optimisation framework for City Logistics: an application on multimodal last-mile delivery". *IET Intelligent Transport Systems*, 12.4, 2018, pp. 262–269.
- [FP17] E. Fadda and G. Perboli G. anf Squillero. "Adaptive Batteries Exploiting On-Line Steady-State Evolution Strategy". *LECTURE NOTES IN COMPUTER SCIENCE*, 10199, 2017, pp. 329–341.
- [PGM17] G. Perboli, L. Gobbato, and F. Maggioni. "A Progressive Hedging method for the multi-path Traveling Salesman Problem with stochastic travel times". *IMA Journal of Management Mathematics*, 28, 2017, pp. 65–86. DOI: 10.1093/imaman/dpv024.
- [Per+17a] G. Perboli, F. Ferrero, S. Musso, and A. Vesco. "Business models and tariff simulation in car-sharing services". *Transportation Research Part A*, 2017. <https://doi.org/10.1016/j.tra.2017.09.011>. DOI: 10.1016/j.tra.2017.09.011.
- [Per+17b] G. Perboli et al. "Synchro-Modality and Slow Steaming: New Business Perspectives in Freight Transportation". *Sustainability*, 9.10, 2017, p. 1843.
- [PPR17] F. Perfetti, G. Perboli, and T. R. "The multi-path Traveling Salesman Problem with stochastic travel costs". *EURO JOURNAL ON TRANSPORTATION AND LOGISTIC*, 6, 2017, pp. 3–23. DOI: 10.1007/s13676-014-0056-2.
- [BPT16] M. M. Baldi, G. Perboli, and R. Tadei. "Driver maneuvers inference through machine learning". *LECTURE NOTES IN COMPUTER SCIENCE*, 10122, 2016, pp. 182–192.
- [Cra+16] T. G. Crainic, L. Gobbato, G. Perboli, and W. Rei. "Logistics Capacity Planning: A Stochastic Bin Packing Formulation and a Progressive Hedging Meta-heuristic". *EUROPEAN JOURNAL OF OPERATIONAL RESEARCH*, 253, 2016, pp. 404–417. DOI: <http://dx.doi.org/10.1016/j.ejor.2016.02.040>.
- [Tad+16] R. Tadei et al. "An ICT-Based Reference Model for E-grocery in Smart Cities". *LECTURE NOTES IN COMPUTER SCIENCE*, 9704, 2016, pp. 22–31. DOI: 10.1007/978-3-319-39595-1.

- [Per+15b] G. Perboli, M. Ghirardi, L. Gobbato, and F. Perfetti. "Flights and their economic impact on the airport catchment area: an application to the Italian tourist market". *JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS*, 164, 2015, pp. 1109–1133. DOI: 10.1007/s10957-014-0613-8.
- [Bal+14a] M. M. Baldi, T. G. Crainic, G. Perboli, and R. Tadei. "Asymptotic results for the Generalized Bin Packing Problem". *Procedia: Social & Behavioral Sciences*, 111, 2014, pp. 663–671. DOI: 10.1016/j.sbspro.2014.01.100.
- [Bal+14b] M. M. Baldi, T. G. Crainic, G. Perboli, and R. Tadei. "Branch-and-price and beam search algorithms for the Variable Cost and Size Bin Packing Problem with optional items". *Annals of Operations Research*, 222, 2014, pp. 125–141. DOI: 10.1007/s10479-012-1283-2.
- [Cag+14] A. C. Cagliano, L. Gobbato, R. Tadei, and G. Perboli. "ITS for E-grocery Business: the Simulation and Optimization of Urban Logistics Project". *TRANSPORTATION RESEARCH PROCEDIA*, 3, 2014, pp. 489–498.
- [Cra+14] T. G. Crainic et al. "Bin Packing Problem with uncertainty on item availability: an application to Capacity Planning in Logistics". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 111, 2014, pp. 654–662.
- [MPT14] F. Maggioni, G. Perboli, and R. Tadei. "The Multi-path Traveling Salesman Problem with Stochastic Travel Costs: Building Realistic Instances for City Logistics Applications". *TRANSPORTATION RESEARCH PROCEDIA*, 3, 2014, pp. 528–536.
- [PGP14] G. Perboli, L. Gobbato, and F. Perfetti. "Packing problems in Transportation and Supply Chain: new problems and trends". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 111, 2014, pp. 672–681. DOI: 10.1016/j.sbspro.2014.01.101.
- [PTG14] G. Perboli, R. Tadei, and L. Gobbato. "The multi-handler knapsack problem under uncertainty". *European journal of operational research*, 236, 2014, pp. 1000–1007. DOI: 10.1016/j.ejor.2013.11.040.
- [Per+14a] G. Perboli, A. De Marco, F. Perfetti, and M. Marone. "A New Taxonomy of Smart City Projects". *Transportation Research Procedia*, 3, 2014, pp. 470–478.
- [Per+14b] G. Perboli, S. Musso, F. Perfetti, and P. Trapani. "Simulation of new policies for the baggage check in the security gates of the airports: the Logiscan case study". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 111, 2014, pp. 58–67. DOI: 10.1016/j.sbspro.2014.01.038.
- [BPT12] M. M. Baldi, G. Perboli, and R. Tadei. "The three-dimensional knapsack problem with balancing constraints". *Applied Mathematics and Computation*, 218, 2012, pp. 9802–9818. DOI: 10.1016/j.amc.2012.03.052.
- [Bal+12a] M. M. Baldi, M. Ghirardi, G. Perboli, and R. Tadei. "The capacitated transshipment location problem under uncertainty: a computational study". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 93, 2012, pp. 256–274.

- [Bal+12b] M. M. Baldi, T. G. Crainic, G. Perboli, and R. Tadei. "The Generalized Bin Packing Problem". *TRANSPORTATION RESEARCH PART E: LOGISTICS AND TRANSPORTATION REVIEW*, 48, 2012, pp. 1205–1220.
- [Ben+12] G. Benedetti., L. Gobbato, G. Perboli, and F. Perfetti. "The Cagliari Airport impact on Sardinia tourism: a Logit-based analysis". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 54, 2012, pp. 1010–1018.
- [Bur+12] G. Burzio et al. "Results and lessons learned of a subjective field operational test on the lane departure warning function". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 48, 2012, pp. 1356–1365.
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- [Def+12] F. Deflorio, J. Gonzales-Feliu, G. Perboli, and T. R. "The influence of time windows on the costs of urban freight distribution services in city logistics applications". *EUROPEAN JOURNAL OF TRANSPORT AND INFRASTRUCTURE RESEARCH*, 12, 2012, pp. 256–274.
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- [Tad+12] R. Tadei, G. Perboli, N. Ricciardi, and M. M. Baldi. "The capacitated transshipment location problem with stochastic handling utilities at the facilities". *International Transactions in Operational Research*, 19, 2012, pp. 789–807.
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- [Cra+11b] T. G. Crainic, S. Mancini, G. Perboli, and R. Tadei. "Multi-start heuristics for the Two-Echelon Vehicle Routing Problem". *LECTURE NOTES IN COMPUTER SCIENCE*, 6622, 2011, pp. 179–190.
- [PTV11] G. Perboli, R. Tadei, and D. Vigo. "The Two-Echelon Capacitated Vehicle Routing Problem: models and math-based heuristics". *TRANSPORTATION SCIENCE*, 45, 2011, pp. 364–380.
- [Cra+10b] T. G. Crainic, G. Perboli, S. Mancini, and R. Tadei. "Two-Echelon Vehicle Routing Problem: A Satellite Location Analysis". *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, 2, 2010, pp. 5944–5955.
- [DPT10] F. Deflorio, G. Perboli, and R. Tadei. "Freight distribution performance indicators for service quality planning in large transportation networks". *FLEXIBLE SERVICES AND MANUFACTURING JOURNAL*, 22, 2010, pp. 36–60.
- [PTM10] G. Perboli, R. Tadei, and F. Masoero. "New Families of Valid Inequalities for the Two-Echelon Vehicle Routing Problem". *ELECTRONIC NOTES IN DISCRETE MATHEMATICS*, 36, 2010, pp. 639–646.

- [CPT09] T. G. Crainic, G. Perboli, and R. Tadei. "TS2PACK: A Two-Level Tabu Search for the Three-dimensional Bin Packing Problem". *EUROPEAN JOURNAL OF OPERATIONAL RESEARCH*, 195, 2009, pp. 744–760.
- [TRP09] R. Tadei, N. Ricciardi, and G. Perboli. "The Stochastic p-Median Problem with Unknown Cost Probability Distribution". *OPERATIONS RESEARCH LETTERS*, 37, Issue 2, 2009, pp. 135–141.
- [CPT08] T. G. Crainic, G. Perboli, and R. Tadei. "Extreme-Point-based Heuristics for the Three-Dimensional Bin Packing problem". *INFORMS JOURNAL ON COMPUTING*, 20, 2008, pp. 368–384.
- [PPT08] G. Perboli, F. Pezzella, and R. Tadei. "EVE-OPT: an Hybrid Algorithm for the Capability Vehicle Routing Problem". *MATHEMATICAL METHODS OF OPERATIONS RESEARCH*, 68, 2008, pp. 361–382.
- [Cra+07a] T. G. Crainic, G. Perboli, M. Pezzuto, and R. Tadei. "Computing the Asymptotic Worst-case of Bin Packing Lower Bounds". *EUROPEAN JOURNAL OF OPERATIONAL RESEARCH*, 183, 2007, pp. 1295–1303.
- [Cra+07b] T. G. Crainic, G. Perboli, M. Pezzuto, and R. Tadei. "New Bin Packing Fast Lower Bounds". *COMPUTERS & OPERATIONS RESEARCH*, 34, 2007, pp. 3439–3457.
- [TPDC02] R. Tadei, G. Perboli, and F. Della Croce. "A heuristic algorithm for the Auto-Carrier transportation problem". *TRANSPORTATION SCIENCE*, 36, 2002, pp. 55–62.

## 2. Book chapters

- [PM18] G. Perboli and M. Marchiani. "La logistica urbana sostenibile quale volano per l'economia italiana". In: M. Deandrei (eds.), vol. 6. *Un Sud che innova e produce*. Giannini Editore, 2018. Chap. XIV, pp. 373–393.
- [TPM18] R. Tadei, G. Perboli, and D. Manerba. "A recent approach to derive the multinomial logit model for choice probability". In: P. Daniele and L. Scrimali (eds.), *New Trends in Emerging Complex Real Life Problems*, Springer, 2018, pp. 473–481. DOI: 10.1007/978-3-030-00473-6\_50.
- [Man+13] S. Mancini, T. G. Crainic, G. Perboli, and R. Tadei. "GRASP with Path-Relinking metaheuristic for the Two-Echelon Vehicle Routing Problem". In: L. Di Gaspero and T. Schaerf A.and Stützle (eds.), *Advances in Metaheuristics*, Springer, 2013, pp. 113–125. DOI: 10.1007/978-1-4614-6322-1\_7.
- [CPT12] T. Crainic, G. Perboli, and R. Tadei. "Recent Advances in Multi-dimensional Packing Problems". In: C. Volosencu (eds.), *New Technologies - Trends, Innovations and Research*. ISBN: 978-953-51-0480-3, InTech, 2012, pp. 91–110.
- [BPT11] M. M. Baldi, G. Perboli, and R. Tadei. "The three dimensional knapsack problem with balancing constraints". In: M. Castano et al. (eds.), *Proceedings of OR Peripatetic Post-Graduate Programme: ORP3-2011*, UCA-Universidad de Cádiz, 2011, pp. 131–135.
- [TP11] R. Tadei and G. Perboli. "The generalized bin packing problem under uncertainty." In: V. Vasek et al. (eds.), *Recent researches in applied and computational mathematics*, WSEAS Press., 2011.

- [Col+03] L. Colaneri, F. Della Croce, G. Perboli, and R. Tadei. "A heuristic procedure for Rack Configuration in the Space Vehicle Accommodation problem". In: T. Ciriani, G. Fasano, S. Gliozzi, and R. Tadei (eds.), *Operations Research in Space and Air*, Kluwer Academic Publishers, 2003, pp. 27–42.

#### 4. Proceedings of peer-reviewed international conferences

- [MP18] D. Manerba and G. Perboli. "A Progressive Hedging approach for a Supplier Selection Problem under Total Quantity Discount and Demand Uncertainty". *7th International Workshop on Freight Transportation and Logistics, Odysseus 2018, Cagliari, Italy*, 2018.
- [MG18] R. Mariangela and P. Guido. "Opportunities and threats of mixing delivery options in the e-commerce era". *6th INFORMS TSL Workshop, Hong Kong*, INFORMS, 2018.
- [Ros+18] M. Rosano, G. Perboli, T. Gabriel Crainic, and W. Rei. "Multimodal capacity planning with uncertainty on contract fulfillment and suppliers reliability". *7th International Workshop on Freight Transportation and Logistics, Odysseus 2018, Cagliari, Italy*, 2018.
- [DM+17] A. De Marco et al. "Business Modeling of a City Logistics ICT Platform". *Computer Software and Applications Conference (COMPSAC), 2017 IEEE 41st Annual*, vol. 2. IEEE. 2017, pp. 783–789. DOI: 10.1109/COMPSAC.2017.76.
- [Fad+17] E. Fadda, D. Mana, G. Perboli, and R. Tadei. "Multi Period Assignment Problem for Social Engagement and Opportunistic IoT". *Computer Software and Applications Conference (COMPSAC), 2017 IEEE 41st Annual*, vol. 2. IEEE. 2017, pp. 760–765. DOI: 10.1109/COMPSAC.2017.173.
- [PCM17] G. Perboli, B. Caroleo, and S. Musso. "Car-Sharing: Current and Potential Members Behavior Analysis after the Introduction of the Service". *Computer Software and Applications Conference (COMPSAC), 2017 IEEE 41st Annual*, vol. 2. IEEE. 2017, pp. 771–776. DOI: 10.1109/COMPSAC.2017.82.
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- [Per+15a] G. Perboli et al. "E-grocery and last mile logistics: do we need a supply-chain reference model?" *EWGT 2015 Book of Abstract*, 2015.



- [CGR14] T. G. Crainic, L. Gobbato, and W. Rei. "A Progressive Hedging algorithm for the Stochastic Variable Cost and Size Bin Packing Problems: An application to capacity planning in logistics". *Proceedings of 3rd INFORMS Transportation Science and Logistics Society Workshop*, 2014.
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- [PGM14] G. Perboli, L. Gobbato, and F. Maggioni. "New models and methods for the multi-path Travelling Salesman Problem with stochastic travel times". *Proceedings of International Conference on Applied Mathematical Optimization and Modelling*, 2014.
- [MPT13] S. Mancini, G. Perboli, and R. Tadei. "A Math-heuristics for the Green Vehicle Routing Problem". *Proceedings of the VEROLOG2013 conference*, 2013.
- [PMT13] G. Perboli, F. Maggioni, and R. Tadei. "The multi-path Traveling Salesman Problem with stochastic travel costs: A City Logistics computational study". *Proceedings of the XIII International Conference on Stochastic Programming*, 2013.
- [Per+13] G. Perboli, R. Tadei, L. Gobbato, and M. M. Baldi. "The Stochastic Generalized Bin Packing Problem". *Proceedings of the XIII International Conference on Stochastic Programming*, 2013.
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- [Bur+11] G. Burzio, L. Guidotti, G. Perboli, and R. Tadei. "A Subjective Field Operational Test on LDW Impact - Lessons Learned and Preliminary Results". *Proceedings of the 8th ITS European Congress*, 2011, pp. 608–610. DOI: 10.1109/HSI.2009.5091047.
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- [Tad+10] R. Tadei, N. Ricciardi, G. Perboli, and M. M. Baldi. "An Efficient Heuristic for the Transshipment Location Problem under Uncertainty with Lower and Upper Capacity Constraints". *Proceedings of CIRO 2010*, 2010.
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- [Cra+09] T. G. Crainic, S. Mancini, G. Perboli, and R. Tadei. "A Branch and Bound for the two-echelon vehicle routing problem". *Odysseus 2009*, 2009, pp. 1–6.
- [Cra+08] T. G. Crainic, S. Mancini, G. Perboli, and R. Tadei. "Lower bounds for the Two-Echelon Vehicle Routing Problem". *9th EU/MEeting on Metaheuristics for Logistics and Vehicle Routing*, 2008.
- [CPT07] T. G. Crainic, G. Perboli, and R. Tadei. "UniPack: a new heuristic framework for Multi-Dimensional Packing Problems". *Proceedings of MIC 2007 The Seventh Metaheuristics International Conference*, 2007, pp. 1–6.
- [GF+07] J. Gonzalez Felius, G. Perboli, R. Tadei, and D. Vigo. "The Two-Echelon Capacitated Vehicle Routing Problem". *Proceedings of the 22th European Conference on Operational Research*, 2007.
- [CPT06] T. G. Crainic, G. Perboli, and R. Tadei. "New Heuristics for Three-Dimensional Packing Problems". *Proceedings of Odysseus 2006 Freight Transportation and Logistics*, 2006, pp. 120–122.
- [CPT04] T. G. Crainic, G. Perboli, and R. Tadei. "Two-Level Tabu Search for 3-D Orthogonal Bin Packing". *Proceedings of INFORMS Annual Meeting*, 2004.
- [CPT03] T. G. Crainic, G. Perboli, and R. Tadei. "An Interval Graph-based Tabu Search Framework for Multi-dimensional Packing". *Proceedings of Odysseus 2003 Freight Transportation and Logistics*, 2003, pp. 1–6.
- [Per+01] G. Perboli, R. Tadei, F. Della Croce, and L. Colaneri. "A heuristic procedure for the Space Cargo Rack Configuration Problem". *Proceedings of the 13th European Conference on Combinatorial Optimization*, 2001.

- [PTDC00] G. Perboli, R. Tadei, and F. Della Croce. "A heuristic algorithm for the Auto-Carrier Transportation Problem". *Proceedings of the 17th European Conference of Operational Research*, 2000.
- [PTD00] G. Perboli, R. Tadei, and F. Della Croce. "A heuristic algorithm for the Auto-Carrier Transportation Problem". *Proceedings of Odysseus 2000 Freight Transportation and Logistic*, 2000.

## 6. Ph.D. thesis

- [Per02] G. Perboli. "Bounds and Heuristics for Packing Problems". PhD thesis. Politecnico di Torino, 2002.

## AWARDS AND RECOGNITIONS

Academic Award	Winner of the Prize "Support for Young Researchers" given by Politecnico di Torino to the young researchers with an outstanding publication record (2011).
Best paper award	Finalist at the best paper award of the seventh annual IEEE Conference on Automation Science and Engineering (IEEE CASE 2011, Trieste, Italy, August 24-27, 2011).
Foreign academic qualification	France, 2006: qualification as "maître de conférence" for the sections "Mathématiques appliquées et applications des mathématiques" (26), "Informatique" (27) et "Génie informatique, automatique et traitement du signal" (61) of Conseil National des Universités.

## RESEARCH PERIODS ABROAD

From (mm/yyyy)	To (mm/yyyy)	Institution/University	Role
10/2017	10/2017	CIRRELT - Montréal	Invited researcher
10/2016	10/2016	CIRRELT - Montréal	Invited researcher
10/2015	11/2015	CIRRELT - Montréal	Invited researcher
10/2014	11/2014	CIRRELT - Montréal	Invited researcher
09/2013	10/2013	CIRRELT - Montréal	Invited researcher
09/2012	09/2012	CIRRELT - Montréal	Invited researcher
07/2011	08/2011	CIRRELT - Montréal	Invited researcher
04/2010	05/2010	CIRRELT - Montréal	Invited researcher
08/2009	08/2009	CIRRELT - Montréal	Invited researcher
08/2008	08/2008	CIRRELT - Montréal	Invited researcher
08/2007	08/2007	CRT - Montréal	Invited researcher
05/2006	06/2006	CRT - Montréal	Invited researcher

## COMMON INTEREST SCIENTIFIC ACTIVITIES

### C.1. RESEARCH PROJECTS IN CHARGE

*FP7, PRIN, etc. N.B.: no industrial contracts (see C.5.). Specify only the projects where you have been Project coordinator or Research Unit coordinator*

<b>Project name</b> (Sponsor)	<b>Project type</b> L: Local N: National E: European O: Other	<b>Period</b> (yyyy/yyyy)	<b>Project</b> coordinator	<b>Research</b> <b>Unit</b> coordinator
Urban Mobility and Logistics Systems Multi-departmental Center (Politecnico di Torino)	L	2017/2019	X	
UrbeLog (Smart City) (Politecnico di Torino)	N	2013/2015		X
ORNet (Politecnico di Torino)	L	2007/2009	X	

### MEMBERSHIP IN BOARDS/COMMITTEES/RESEARCH CENTERS ETC.

<b>Type</b>	<b>Name</b>	<b>Role</b>	<b>Period</b> (yyyy/yyyy)
Committee	Italian National Agency for the Evaluation Of Universities And Research Institutes	Area Expert	2019-Today
Committee	Member of the Scientific Board of the Digital Hub of Compagnia delle Opere	Scientific and Steering Committee	2019-Today
Committee	Member of the Scientific Board of the Digital Hub of Compagnia delle Opere	Scientific and Steering Committee	2018-Today

Committee	Member of the Editorial Board of the Sustainability journal (Impact Factor 2017: 2.075)	Associate Editor	2018-Today
Committee	Member of the Board of the Amazon Innovation Award	Scientific and Steering Committee	2017-Today
Committee	Director of ICT for City Logistics and Enterprises Center	Scientific and Steering Committee	2016-Today
Committee	AROSA 2019-Conference Track @ the 29th WETICE Conference, Capri, Italy	Program Committee	2018-2019
Committee	International Conference on Optimization and Decision Sciences, Genoa, Italy	Scientific Committee	2018-2019
Committee	International Conference on Stochastic Programming 2019, Trondheim, Norway	Scientific Committee	2018-2019
Committee	Member of SOSLOG - Association of Sustainable logistics	Scientific Board	2017-Today
Committee	Member of the PhD in Management, University of Turin	PhD Board	2017-Today
Committee	INFORMS Transportation Science and Logistics Workshop 2018	Scientific and Steering Committee	2016-2018
Committee	Network Optimization Workshop 2017	Scientific Committee	2016-2017
Committee	Odysseus 2015	Scientific Committee	2014-2015
Committee	Network Optimization Workshop - NOW 2013	Scientific Committee	2012-2013
Committee	13th International Conference on Stochastic Programming	Scientific Committee	2012-2013

Committee	Odysseus 2012	Scientific Committee	2011-2012
Research Center	CIRRELT	Associate Member	2008-Today
University	UQAM – Université du Québec a Montréal	Member of the "Chaire de recherche industrielle du CRSNG en management logistique"	2008-2010
Board	AIRO	AIRO Steering Committee member	2004-2007
Board	AIRONews	Editorial Board member	1999-2005

#### — INVITED LECTURES AND SEMINARS

<b>Date (mm/yyyy)</b>	<b>Type</b>	<b>Institution/University/Conference</b>
03/2018	Invited Speaker	2018 9th IFIP International Conference on New Technologies, Mobility & Security, Paris, France. Title: Applications of Blockchain to Supply Chain and Logistics: emerging trends and new challenges
09/2017	Keynote speaker	Workshop Optimization of Intermodal Freight Transportation, Valenciennes, France. Title: Parcel delivery in urban areas: opportunities and threats for the mix of new business models and technologies
05/2016	Keynote speaker	International Conference on Big Data-Based Healthcare Operations and Logistics Management, Chengdu, Sichuan, China. Title: Vehicle routing: recent trends and new challenges
05/2016	Keynote speaker	Summit on Constructing the Shipping and Logistics Center at the Combined Port of Sichuan, Yunnan, Guizhou Provinces in Luzhou, Sichuan, China. Title: Smart Cities in a Smart World.
10/2016	Seminar	CIRRELT, Montréal.
10/2015	Seminar	CIRRELT, Montréal.
10/2014	Seminar	CIRRELT, Montréal
10/2013	Seminar	CIRRELT, Montréal
03/2013	Seminar	University of Bergamo
09/2012	Seminar	CIRRELT, Montréal
04/2009	Seminar	CIRRELT, Montréal
02/2008	Seminar	Univ. Politecnica delle Marche
10/2007	Seminar	Univ. Wien
08/2007	Seminar	CIRRELT, Montréal
02/2007	Seminar	Univ. Politecnica delle Marche

12/2006	Seminar	Univ. Cesena
06/2006	Seminar	Serbian Academy of Sciences and Arts, Belgrade
05/2006	Seminar	CRT, Montréal

## COMMUNITY ACTIVITIES

Type	Period (yyyy/yyyy)
Member of the PhD Board of the PhD in Management, University of Turin	2017-Today
Member of the Board for Logistics Plan of the Regional Council of Piedmont, Italy	2018-Today
Director of the ICT for City Logistics and Enterprises Center of Politecnico di Torino	2016-Today
Chair of TOP Experiences, meetings at Politecnico di Torino with International top managers	2014-Today
Chair of the Young Thematic Branch of AIRO	2006-2008
Chair of the Organizing Committee of the I FIMA International Conference - Models and Methods for Human Genomics	2005-2006
Member of the Organizing Committee of the International Conference AIROWINTER 2004	2003-2004
Member of the Organizing Committee of the International Conference AIROWINTER 2003	2003-2004
Project Manager of the unit for the development of the web-services of AIRO ? The Italian Operations Research Society	2001-2002
Member of the Organizing Committee of the International Conference AIRO97	1996-1997
Member of the Organizing Committee of XV Euro Summer Institute (ESI XV)	1996-1997

## INDUSTRIAL TRAINING

Type	Period (yyyy/yyyy)
Course in Innovation Management and Lean Business in Italdesign	2019
Scientific Direction of the TANGRAM Project - Project for the training in Industry funded by Fondimpresa	2018-2019
Course in Mobility for the Regional Council of Alto Adige - Module: Urban planning and strategies for sustainable mobility	2018

Course for Executive in Digital Transformation by Skillab/Fondirigenti - Module Digital business models	2018
Course in Lean in TIM JoL	2017
Course in Lean in TIM JoL	2017
Course for Executive in Digital Transformation by Skillab - Module Business model and digital transformation	2015
Scientific Direction fo the Master ANCI Smart and Sustainable Mobility in Urban Areas	2015
Master Management of Smart Cities - Module: City Logistics: Models methods and case studies	2014

### EVALUATION OF INDUSTRIAL AND INNOVATION MANAGEMENT PROJECTS

Type	Period (yyyy/yyyy)
Scientific Expert of the Digital Hub of Compagnia delle Opere (Hub in the EU list of Digital and Innovation Hub)	2018-Today
Mentor of startups in I3P, the Incubator of the Politecnico di Torino	2015-Today
Evaluation of Projects in the NSERC Discovery Grant Program of the Government of Canada	2018
Evaluation of Startup and Innovation Projects for the Regional Council of the Province of Trento	2018
Evaluation of Startup and Innovation Projects for the Regional Council of Campania	2018
Evaluation of Startup and Innovation Projects for the Regional Council of Campania	2017
Mentor in TIM Join Open Labs and TIM Working Capital of startups (mainly ICT and robotics markets)	2015-2017

### TECHNOLOGY TRANSFER

*Industrial contracts (only if Project Leader), consultancy services, workshop/seminar for companies, etc.*

Type	Period (yyyy/yyyy)
Industrial Contract with Italdesign for the development of Innovation Strategies for Smart Cities services	2019



Industrial Contract with FCA for the development of a DSS for the strategic process of the procurement of the spare parts	2017-2018
Industrial Contract with TIM for the integration of business discovery processes and innovation management in the Innovation branch of the company	2016-2017
Member of the committee of the MoU between Poste Italiane s.p.a. and Politecnico di Torino	2015-2018
Industrial Contract with PonyZero srl, a startup of Politecnico di Torino for a fleet routing and management tool	2015-2016
Academic supervisor of 5 industrial Lagrange grants funded by the CRT Foundation	2008-2017
R&D Director in BDS srl, Turin	2007-2017
Industrial Contract with BDS srl, Turin, for the development and the analysis of Customer Satisfaction and Profiling questionnaires	2008-2013
Coordinator of ICARO2 Project, funded by HP Philanthropic Grants	2002-2003
Coordinator of ICARO Project, funded by HP Philanthropic Grants	2000-2001

## TEACHING ACTIVITIES

### TEACHING IN CHARGE

He is presently Professor of the courses of Operations Research in the Bachelor of Industrial Production of Politecnico di Torino, Industrial strategies and Professional Ethics in the Master of Industrial Production and Innovation Management of Politecnico di Torino, and Lean Business and Innovation Management at the Ph.D. School of Politecnico di Torino (soft skill course). Since 2018 he is also professor of Operational Decision Making Systems in the Master of Business Intelligence of EFREL, Paris.

*Number of credits (CFU) per academic year, level, scientific sector (S.S.D.), and language*

Academic Year (yyyy/yyyy)	Bachelor		Master		Ph.D.		Specializing Master		S.S.D.	Total
	Italian	English	Italian	English	Italian	English	Italian	English		
2018/2019	6								MAT/09	18
			8			4			INGIND/35	
2017/2018	6					4			MAT/09	22
			8			4			INGIND/35	
2016/2017	6					4			MAT/09	22
			8			4			INGIND/35	
2015/2016	6					4			MAT/09	18
			8			4			INGIND/35	
2014/2015	6					4			MAT/09	10
2013/2014	6								MAT/09	6
2012/2013	6								MAT/09	6
2011/2012	5								MAT/09	5
2010/2011	5		5						MAT/09	10
2009/2010	5		5						MAT/09	10
2008/2009	5								MAT/09	5
<b>Total</b>	<b>62</b>		<b>44</b>			<b>28</b>				<b>134</b>

## PH.D. SUPERVISION

*Ph.D. Laureates supervised*

PhD Cycle	Ph.D. Laureates
XXXI	Mariangela Rosano
XXX	Edoardo Fadda
XXVII	Luca Gobbato
XXIII	Simona Mancini

*Ph.D. currently in the PhD program*

PhD Cycle	Ph.D. Laureates
XXXIV	Wei Qu

Turin, February 18, 2019



Professor, Politecnico di Torino  
Associate Member, CIRRELT, Montreal, Canada