

Mauro Dell'Amico

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Career summary

Mauro Dell'Amico has almost a three decades academic experience in combinatorial optimization and operations research, primarily applied to mobility, logistics, transportation, supply chain management, production scheduling and planning, network planning. Mauro has participated as principal investigator in many EU and Italian funded research projects in optimization, logistics, transportation, ICT, and scheduling. He is member of the scientific board of several international conferences and journals. From 2008 to 2014 he was the director of the Interuniversity Consortium for Optimization and Operations Research, from 2015 he is the President of the consortium. Director of the Department of Sciences and Methods for Engineering at UniMoRe from 2009 to 2012. Mauro complements the academic activities with consultancy on optimization for private and public companies.

Employment

Dates	2000-current
Name of employer	University of Modena and Reggio Emilia (UniMORE)
Type of business or sector	High Education
Occupation or position	Full professor
Main activities and responsibilities	Mauro Dell'Amico specializes in combinatorial optimization and its applications. In particular his theoretical interests are in graph theory, mathematical programming, heuristics with applications to transport, logistics, supply-chain, etc. He has been principal investigator for Unimore in several European projects (6 projects in H2020, 11 projects in FP/7, 1 project in FP6) and in national founded research projects. He published over 60 papers, 2 international books and 4 didactic books. He is president of the Italian Consortium for Optimization and Operations Research. Principal Investigator of UniMORE and ICOOR in EU projects H2020: (ELVITEN, SUCCESS, AEOLIX, NEMO, OPTITRUCK, Plan4Res), FP/7 (SAFERIDER, ASSET, 2BESAFE, SAFEWAY2SCHOOL, ISI-PADAS, TELEFOT, SAVEME, CITYLOG, SmartCEM, ID4EV, CO-GISTICS), FP/6 (AC/DC). Principal Investigator for UniMORE in National projects SORSA, STIL, ASINFO, and others. Coordinating the research group including several PhD students and fellows. Writing papers and articles for a wide range of publications. Teaching Operations research and its Applications at UniMoRe (Department of Sciences and Methods for Engineering, Department of Physics, Information Science and Mathematics, and Department of Engineering "Enzo Ferrari").
Dates	1995-2000
Name of employer	University of Modena and Reggio Emilia (UniMORE)
Type of business or sector	High Education
Occupation or position	Assistant Professor
Dates	1990-1995
Name of employer	Polytechnic of Milan
Type of business or sector	High Education
Occupation or position	Assistant Professor

Education

	Dates	1990
Title of qualification awarded		PhD in System Engineer
Name and type of organization		University of Bologna, Italy
	Dates	1985
Title of qualification awarded		Master degree in Electronic Engineer, 110/110 cum laude
Name and type of organization		University of Bologna, Italy

Selected publications

International journals

1. N.S. Hajjimitriou, M. Dell'Amico, M. Lippi, A. Skiera (2019). Machine Learning for Severity Classification of Accidents Involving Powered Two Wheelers *IEEE Transactions on Intelligent Transportation Systems*, DOI 10.1109/TITS.2019.2939624
2. M. Dell'Amico, J. Neto (2019). On f -domination: polyhedral and algorithmic results *Mathematical Methods of Operations Research*, 90(1), 1-22.
3. M. Dell'Amico, J. Neto (2019) On total f -domination: polyhedral and algorithmic results *Discrete Applied Mathematics*, 258, 97-104.
4. M. Dell'Amico, G. Fuellerer, G. Hoeflinger, S. Novellani (2019), A Decision Support System for Earthwork Activities in Construction Logistics, in *A View of Operations Research Applications in Italy, 2018*, M. Dell'Amico, G. Stecca, M. Gaudio, eds., 167-178.
5. M. Dell'Amico, M. Iori, S. Novellani, A. Subramanian (2018). The Bike sharing Rebalancing Problem with Stochastic Demands *Transportation Research, Part B*, 118, 362–380.
6. M. Dell'Amico, M. Delorme, M. Iori, S. Martello (2018). Mathematical models and decomposition methods for the multiple knapsack problem *EJOR*, 274, 886-899.
7. R. Kramer, M. Dell'Amico, M. Iori (2017). A batching-move iterated local search algorithm for the bin packing problem with generalized precedence constraints, *International Journal of Production Research*, 55, 6288-6304.
8. M. Dell'Amico, N.S. Hadjimitriou, M. Mamei, T. Koch, M. Petkovic (2017). Forecasting Natural Gas Flows in Large Networks, *International Workshop on Machine Learning, Optimization, and Big Data*.
9. N.S. Hadjimitriou, M. Mamei, M. Dell'Amico, I. Kaparias (2017). Classification of LiveBus Arrivals User Behaviour, *Journal of Intelligent Transport Systems*, 21-5, 375-389.
10. M. Dell'Amico, G. Fuellerer, G. Hoeflinger, M. Iori, S. Novellani (2016), A Decision Support System for Highway Construction: The Autostrada Pedemontana Lombarda, *Interfaces*, 46-3, 203-280.
11. M. Dell'Amico, M. Iori, S. Novellani, T. Stützle (2016). A destroy and repair algorithm for the Bike sharing Rebalancing Problem *Computers & Operations Research*, 71, 149-162.
12. Wilner Ciscal, M. Dell'Amico, N.S. Hadjimitriou, M. Iori (2016) An analysis of drivers route choice behaviour using {GPS} data and optimal alternatives, *Journal of Transport Geography*, 51, 119–129.
13. M. Dell'Amico, J.C. Díaz Díaz, G. Hasle, M. Iori (2016). An Adaptive Iterated Local Search for the Node, Edge, and Arc Routing Problem. *Transportation Science*, 50, 1223–1238.
14. C. Bogenberger, M. Dell'Amico, G. Fuellerer, G. Hoeflinger, M. Iori, S. Novellani, B. Panucci (2015), A Two-Phase Earthwork Optimization Model for Highway Construction, *Journal of Construction Engineering and Management*, 141.
15. A. Caprara, M. Dell'Amico, J.C. Díaz Díaz, M. Iori, R. Rizzi (2015) Friendly Bin Packing Instances without Integer Round-up Property *Mathematical Programming-B*, 150, 5–17.

16. J.F. Cordeau, M. Dell'Amico, S. Falavigna, M. Iori (2015). A Rolling Horizon Algorithm for Auto-Carrier Transportation, *Transportation Research, part B*, 76, 68-80
17. M. Dell'Amico, S. Falavigna, M. Iori. Optimization of a Real-World Auto-Carrier Transportation Problem. *Transportation Science*, 49/2, 402-419
18. J.F. Coté, M. Dell'Amico and M. Iori (available online 23/4/2014). Combinatorial Benders Cuts for the Strip Packing Problem. *Operations Research*, 62, 643-661.
19. M. Dell'Amico, E. Hadjicostantinou, M. Iori, S. Novellani (2014). The Bike Sharing Rebalancing Problem: Mathematical Formulations and Benchmark Instances *Omega*, 45, 7-19
20. M. Dell'Amico, E. Cagni, M. Iori, A. Botti, B. Panicucci (2013). PO-0834: Investigation of IMRT dose optimization with gE UD-based objective using a linear programming approach, *Radiotherapy & Oncology*, 106, S319S320.
21. F. Clautiaux, M. Dell'Amico, M. Iori, A. Khanafer (2013). Lower and Upper Bounds for the Bin Packing Problem with Fragile Objects. *Discrete Applied Mathematics*, 163, 73-86
22. M. Alba, F. Clautiaux, M. Dell'Amico and M. Iori (2013). Exact Algorithms for the Bin Packing Problem with Fragile Objects. *Discrete Optimization*, 10, 210-223
23. M. Alba, J.F. Cordeau, M. Dell'Amico and M. Iori (2013). A Branch-and-Cut Algorithm for the Double Traveling Salesman Problem with Multiple Stacks, *INFORMS Journal on Computing*, 25, 41-55
24. M. Dell'Amico, J.C. Díaz Díaz, M. Iori. (2012) The Bin Packing Problem with Precedence Constraints. *Operations Research*, 60, 1491-1504
25. M. Dell'Amico and M. Iori and S. Martello and M. Monaci (2012). A note on exact and heuristic algorithms for the identical parallel machine scheduling problem, *Journal of Heuristics*, 18, 549-569.
26. J.F. Cordeau, M. Dell'Amico and M. Iori (2010). Branch-and-cut for the pickup and delivery traveling salesman problem with FIFO loading, *Computer & Operations Research*, 37, 970-980.
27. R. Baldacci, M. Dell'Amico (2010). Heuristic Algorithms for the Multiple-Depot Ring-Star Problem, *European Journal of Operational Research*, 203, 270-281.
28. M. Dell'Amico, J.C. Díaz Díaz, M. Iori, R. Montanari (2009). The single-finger keyboard layout problem. *Computers & Operations Research*, 36, 3002-3012
29. M. Dell'Amico, M. Iori, D. Pretolani (2008). Shortest Paths in Piecewise Continuous Time-Dependent Networks. *Operations Research Letters*, 36, 688-691
30. M. Dell'Amico, M. Iori, M. Monaci, S. Martello (2008). Heuristic and Exact Algorithms for the Identical Parallel Machine Scheduling Problem. *INFORMS J. on Computing*, 20, 333-344.
31. R. Baldacci, M. Dell'Amico, J.J. Salazar, (2007). The Capacitated m-Ring Star Problem, *Operations Research*, 55, 1147-1162
32. M. Dell'Amico, M. Monaci, C. Pagani., D. Vigo (2007). Heuristic approaches for the Fleet Size and Mix Vehicle Routing Problem with Time Windows. *Transportation Sciences*, 41, 516-526.
33. M. Dell'Amico, M. Iori, M. Monaci, S. Martello (2006). Lower Bounds and Heuristic Algorithms for the K_i Partitioning Problem. *European Journal of Operational Research*, 171, 725-742.
34. M. Dell'Amico, G. Righini, M. Salani (2006). A Branch and Price Algorithm for the Vehicle Routing Problem with Simultaneous Pick-up and Delivery, *Transportation Sciences*, 40, 235-247.
35. R. Aringhieri, M. Dell'Amico (2005) Comparing Intensification and Diversification Strategies for Sonet Network Design Problems. *Journal of Heuristics*, 11, 35-57.
36. M. Dell'Amico, S. Martello (2005). A Note on Exact Algorithms for the Identical Parallel Machine Scheduling Problem. *European Journal of Operational Research*, 160, 576-578.

37. M. Dell'Amico, M. Iori, S. Martello (2004). Heuristic Algorithms and Scatter Search for the Cardinality Constrained $P||C_{max}$ Problem, *Journal of Heuristics*, 10, 169-204.
38. M. Dell'Amico, F. Maffioli, M. Merani (2004). A Tree Partitioning Dynamic Policies for OVSF Codes Assignment in Wideband CDMA. *IEEE Transactions on Wireless Communications*, 3, 1013-1017.
39. M. Dell'Amico, F. Maffioli, F. Malucelli (2003). The Base-Matroid and Inverse Combinatorial Optimization. *Discrete Applied Mathematics*, 128, 337-353.
40. M. Dell'Amico, S. Martello, D. Vigo (2002). A Lower Bound for the Non-Orineted Two-Dimensional Bin Packing Problem. *Discrete Applied Mathematics* 118, 13-24.
41. M. Dell'Amico, L. Finta (2002). A Linear Time Algorithm for Scheduling Outforests with Communication Delays on Three Processors. *Journal of Algorithms* 44, 287-307.
42. M. Dell'Amico, A. Lodi, S. Martello, (2001). Efficient Algorithms and Codes for k -Cardinality Assignment Problems. *Discrete Applied Mathematics* 110, 25-40.
43. M. Dell'Amico, S. Martello (2001). Bounds for the Cardinality Constrained $P||C_{max}$ Problem. *Journal of Scheduling* 4, 123-138.
44. M. Dell'Amico, P. Toth, (2000). Algorithms and Codes for Dense Assignment Problems: the State of the Art. *Discrete Applied Mathematics* 100, 17-48.
45. M. Dell'Amico, F. Maffioli, (2000). Combining Linear and Non Linear Objectives in Spanning Tree Problems. *Journal of Combinatorial Optimization*, 4, 253-269.
46. M. Dell'Amico, S. Martello (1999). Reduction of the Three-Partition Problem. *Journal of Combinatorial Optimization* 3, 17-30.
47. M. Dell'Amico, A. Lodi, F. Maffioli, (1999). Solution of the Cumulative Assignment Problem with a Well-Structured Tabu Search Method. *Journal of Heuristics* 5.2, 123-143.
48. M. Dell'Amico, M. Labbé, F. Maffioli, (1999). Exact Solution of the SONET Ring Loading Problem. *Operations Research Letters* 25, 119-129.
49. M. Dell'Amico, M. Trubian (1998). Solution of Large Weighted Equicut Problems, *European Journal of Operational Research* 106, 500-521.
50. M. Dell'Amico, F. Maffioli, A. Sciomachen (1998). A Lagrangean Heuristic for Prize Collecting Travelling Salesman Problem, *Annals of Operations Research* 81, 289-305.
51. M. Dell'Amico, F. Maffioli, M. Trubian (1998). New Bounds for Optimum Traffic Assignment in Satellite Communication, *Computers & Operations Research* 25, 729-743.
52. M. Dell'Amico, F. Maffioli (1996). On some Multicriteria Arborescence Problems: Complexity and Algorithms. *Discrete Applied Mathematics* 65, 191-206.
53. M. Dell'Amico, M. Labbé, F. Maffioli (1996). Complexity of Spanning Tree Problems with Leaf-Dependant Objective Function. *Networks* 27, 175-181.
54. M. Dell'Amico, S. Martello (1996). Open Shop, Satellite Communication and a Theorem by Egerväry (1931), *Operations Research Letters* 18, 207-211.
55. M. Dell'Amico (1996). Shop Problems with two Machines and Time-Lags. *Operations Research* 44, 777-787.
56. M. Dell'Amico, S. Martello (1996). The K -Cardinality Assignment Problem. *Discrete Applied Mathematics* 76, 103-121.
57. M. Dell'Amico, S. Martello (1995). Optimal Scheduling of Tasks on Identical Parallel Processors. *ORSA Journal on Computing* 7, 181-200.
58. M. Dell'Amico, S. Martello, D. Vigo (1995). Minimizing the Sum of Weighted Completion Times with Unrestricted Weights. *Discrete Applied Mathematics* 63, 25-41.

59. G. Carpaneto, M. Dell'Amico, P. Toth (1995). Exact Solution of Large-Scale, Asymmetric Traveling Salesman Problems. *ACM Transactions on Mathematical Software* 21, 394–409.
60. G. Carpaneto, M. Dell'Amico, P. Toth (1995). Algorithm 750: CDT A Subroutine for the Exact Solution of Large-Scale, Asymmetric Traveling Salesman Problems. *ACM Transactions on Mathematical Software* 21, 410–415.
61. M. Dell'Amico, F. Maffioli, P. Värbrand (1995). On Prize-Collecting Tours and the Asymmetric Travelling Salesman Problem. *International Transactions on Operational Research* 2, 297–308.
62. M. Dell'Amico, M. Trubian (1993). Applying Tabu Search to the Job-Shop Scheduling Problem. *Annals of Operations Research* 41, 231–252.
63. M. Dell'Amico, M. Fischetti, P. Toth (1993). Heuristic Algorithms for the Multiple Depot Vehicle Scheduling Problem. *Management Science* 39, 115–125.
64. G. Carpaneto, M. Dell'Amico, M. Fischetti, P. Toth (1989). A Branch and Bound Algorithm for the Multiple Depot Vehicle Scheduling Problem. *Networks* 19, 531–548.

National journals

65. M. Dell'Amico (1990). Un algoritmo euristico per la pianificazione delle risorse nei progetti software. *Ricerca Operativa* 56, 29–47.
66. M. Dell'Amico (1989). Una Nuova Procedura di Assegnamento per il Vehicle Scheduling Problem. *Ricerca Operativa* 51, 3–21.
67. M. Fischetti, S. Martello, P. Toth, G. Carpaneto, M. Dell'Amico (1988). Modelli ed Algoritmi per Problemi di Scheduling in Aziende di Trasporto Pubblico. *Ricerca Operativa* 48, 3–32.

Chapters of international books with peer review

68. R. Gamberini, B. Rimini, M. Dell'Amico, F. Lolli, M. Bianchi (2012). Design and optimization of picking in the case of multi-item multi-location multi-pallet customer orders. *Warehousing in Industrial Systems*, R. Manzini (ed.), SpringerLink : Bücher, E-Book.
69. R. Aringhieri, M. Dell'Amico (2005). A Variable-Neighborhood Variable-Objective Tabu Search Algorithm for the SONET Ring Assignment with Capacity Constraints. *Metaheuristic Optimization Via Memory and Evolution*, C. Rego and B. Alidaee (eds), Kluwer, 93–116.
70. M. Dell'Amico, A. Lodi (2005). On the integration of Tabu Search techniques in Constraint Programming. *Metaheuristic Optimization Via Memory and Evolution*, C. Rego and B. Alidaee (eds), Kluwer, 357–371.
71. M. Dell'Amico, S. Martello (1997). Linear Assignment. In: M. Dell'Amico, F. Maffioli, S. Martello (eds.). *Annotated Bibliographies in Combinatorial Optimization*, Wiley, Chichester, 355–371.
72. M. Dell'Amico, S. Martello, D. Vigo (1996). Heuristic Algorithms for Single Processor Scheduling with Earliness and Tardiness Penalties. In: I.H. Osman, J.P. Kelly (eds.). *Meta-Heuristics: Theory and Applications*, Kluwer Academic Publishers, Hingham, 167–182.
73. M. Dell'Amico, F. Maffioli (1996). A New Tabu Search Approach for the 0–1 Equicut Problem. In: I.H. Osman, J.P. Kelly (eds.). *Meta-Heuristics: Theory and Applications*, Kluwer Academic Publishers, Hingham, 361–370.

Books

74. M. Dell'Amico, G. Stecca, M. Gaudio (eds.) (2019). *A View of Operations Research Applications in Italy, 2018*, Springer, Cham.
75. R. Burkard, M. Dell'Amico, S. Martello (2009). *Assignment Problems*, SIAM (second revised edition, 2012)

76. M. Dell'Amico, F. Maffioli, S. Martello (eds.) (1997). *Annotated Bibliographies in Combinatorial Optimization*, Wiley, Chichester.

Other contributions

77. M. Alba, F. Clautiaux, M. Dell'Amico, M. Iori (2011). Models and Algorithms for the Bin Packing Problem with Fragile Objects, CTW 11 (10-th Cologne-Twente Workshop), 36-39.
78. M. Dell'Amico, M. L. Merani, F. Maffioli, (2002). Efficient algorithms for the assignment of OVSF codes in wideband CDMA, *ICC 2002 - IEEE International Conference on Communications*, no. 1, April 2002, 3055-3060.
79. M. Dell'Amico (1999b). On the Continuous Relaxation of Packing Problems. *Materiali di discussione* 182, Dipartimento di Economia Politica, Università di Modena.
80. M. Dell'Amico, S. Martello (1996). A Note on the Inukai Algorithm for the SS/TDMA Time Slot Assignment Problem. *Materiali di discussione*, Dipartimento di Economia Politica, Università di Modena.
81. M. Dell'Amico (1994). Optimal Idle Time Insertion in One-Processor Scheduling Problems. *Rapporto interno* 94/15, Dipartimento di Elettronica e Informazione, Politecnico di Milano, presentato a EURO XIV, Gerusalemme (1995).
82. M. Dell'Amico, R.J.M. Vaessens (1995). Flow and Open Shop Scheduling on Two Machines with Transportation Times and Machine-Independent Processing Times is NP-hard. *Materiali di discussione* 141, Dipartimento di Economia Politica, Università di Modena.
83. G. Carpaneto, M. Dell'Amico, M. Fischetti, P. Toth (1988). Algoritmi Euristici per il Multiple Depot Vehicle Scheduling Problem con Veicoli Diversi. In *Ricerca Operativa e Intelligenza Artificiale*, atti Giornate AIRO, Centro di Ricerca IBM, Pisa, 331–346.
84. G. Carpaneto, M. Dell'Amico (1988). Simulazione di fenomeni di disoccupazione in regime non stazionario. *Rapporto interno*, Dipartimento di Economia Politica, Università di Modena.
85. G. Carpaneto, M. Dell'Amico (1987). Assegnamento di Lavorazioni a Macchine in un'Azienda di Produzioni in Serie. In *Ricerca Operativa nel Project Management*, atti giornate AIRO, Franco Angeli, Milano, 367–390.

Didactic books

86. M. Dell'Amico (2006). *120 Esercizi di Ricerca Operativa - seconda edizione*. Pitagora Editrice, Bologna, pp 149.
87. R. Baldacci, M. Dell'Amico (2002). *Fondamenti di Ricerca Operativa*. Pitagora Editrice, Bologna, pp 108.
88. M. Dell'Amico (2001). *Programmazione Matematica: parte II: elementi di teoria dei grafi*. Pitagora Editrice, Bologna, pp 36.
89. M. Dell'Amico (1999). *Programmazione Matematica: parte I, programmazione lineare*. Pitagora Editrice, Bologna, pp 73.
90. M. Dell'Amico (1996). *120 Esercizi di Ricerca Operativa*. Pitagora Ed., Bologna, pp 163.
91. G. Carpaneto, M. Dell'Amico (1988). *Nozioni di Informatica ed Applicazioni Matematiche e di Ricerca Operativa*. Tecnoprint, Bologna, pp 136.
92. G. Carpaneto, M. Dell'Amico, G. Ricci (1987). *Nozioni di Informatica e BASIC ed Applicazioni in Campo Matematico, Economico ed Aziendale*. Dipartimento di Economia Politica, Università di Modena, pp 99.