

# Curriculum vitae et studiorum

## Michele Monaci

### Contacts

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### • Bio

Michele Monaci was born in Bologna in 1974.

On March, 1998, he took his degree in Electronic Engineering (cum laude) at the University of Bologna.

On November, 1998, he started the Ph.D. program in Systems Engineering at the Department of Electronics, Computer Science and Systems of the University of Bologna, under the supervision of Proff. Paolo Toth and Silvano Martello.

On March, 2002, he successfully discussed the dissertation “Algorithms for Packing and Scheduling Problems”, and obtained the Ph.D. in Systems Engineering.

From 2002 to 2004 he was post-doc at Department of Electronics, Computer Science and Systems of the University of Bologna.

From January 2005 to February 2016 he was Assistant Professor in Operations Research at Department of Information Engineering of the University of Padova.

In 2013 he received the Associate Professor and Full Professor qualifications in Operations Research. In 2017 he received again the Full Professor qualification in Operations Research.

From March 2016 to August 2019 he was Associate Professor in Operations Research at The Department of Electrical, Electronic and Information Engineering (DEI) of the University of Bologna.

Since September 2019 he is Full Professor in Operations Research at The Department of Electrical, Electronic and Information Engineering (DEI) of the University of Bologna.

### • Research Funding and Contracts

- 1998: researcher within the collaboration between the Department of Electronics, Computer Science and Systems of the University of Bologna and Ferrovie dello Stato S.p.A. on crew scheduling problems.
- 1999 → 2005: researcher within the collaboration between the Department of Electronics, Computer Science and Systems of the University of Bologna and Ferrovie dello Stato S.p.A. and Rete Ferroviaria Italiana S.p.A. on train timetabling problems.
- 2001: collaboration with Beghelli S.p.A. on staff scheduling problems.
- 2003: researcher within the collaboration between the Department of Electronics, Computer Science and Systems of the University of Bologna and Comune di Bologna on scheduling problems.

- 2003 → 2005: researcher within the collaboration between the Department of Electronics, Computer Science and Systems of the University of Bologna and Rete Ferroviaria Italiana S.p.A. on train platforming problems.
- 2007: collaboration with the Department of Information Engineering of the University of Pisa on allocation problems arising in WiMax telecommunication.
- 2007 → 2009: researcher within the collaboration between the Department of Electronics, Computer Science and Systems of the University of Bologna and Nokia-Siemens Networks on 2-dimensional packing problems arising in telecommunication applications.
- 2012: principal investigator in the collaboration between the Department of Information Engineering of the University of Padova and ALSTOM Ferroviaria S.p.A. on online train dispatching problems.
- since 2016: researcher within the collaboration between the Department of Electronics, Computer Science and Systems of the University of Bologna and ALSTOM Ferroviaria S.p.A. on energy saving in railways applications.

## • National and international projects

- European Project TRIS (Teleconferencing Railways Information System): research member.
- European Project PARTNER (Path Allocation Re-engineering of Timetable Network for European Railways): research member.
- European Project ARRIVAL (Algorithms for Robust and online Railway optimization: Improving the Validity and reliability of Large scale systems): research member.
- European Project AAS (integrated Airport Apron Safety fleet management): research member.
- European Project PlaMES (Integrated Planning of Multi-Energy Systems): research member.
- Progetto PRIN “Problemi di routing e packing nell’ottimizzazione dei sistemi di trasporto”: research member.
- Progetto PRIN “Approcci integrati per l’Ottimizzazione Discreta e Non Lineare”: research member.
- Progetto PRIN “Ottimizzazione Nonlineare Mista-Intera: Approcci e Applicazioni”: research member.
- Progetto PRIN “Nonlinear and Combinatorial Aspects of Complex Networks”: principal investigator of the University of Bologna (since 4/12/2018).
- Progetto Strategico di Ateneo of the University of Padova “Integrating Integer Programming and Constraint Programming”: research member.
- Progetto Strategico di Ateneo of the University of Padova “Computational Integer Programming”: research member.
- Progetto di Eccellenza CARIPARO of the University of Padova “Integer Programming and Combinatorial Optimization”: research member.
- Research project of the University of Padova “Caricamento ottimo (OptLoad)”: principal investigator.
- Research project of the University of Padova “Ottimizzazione on-line nelle ferrovie (ONLINE)”: principal investigator.

- Progetto Strategico di Ateneo of the University of Padova “Exploiting randomness in Mixed Integer Linear Programming”: principal investigator.
- Research Project of the Vienna Science and Technology Fund “WWTF ICT15-014”: principal investigator of the University of Bologna (since 1/3/2016).

## • Didactic activity

From 1999 to 2003 he was Lecturer of the course “Operations Research LS” for the graduate (laurea specialistica) course in Aerospace Engineering of the University of Bologna (Second Faculty of Engineering at Forlì).

From 2000 to 2004 he was Tutor of the course “Operations Research” for the undergraduate course in Computer Science Engineering in tele-didactic form for the University of Bologna.

From 2000 to 2004 he was Lecturer of the course “Combinatorial Optimization” for the graduate (laurea specialistica) course in Computer Science Engineering of the University of Bologna.

From 2000 to 2004 he was Lecturer of the course “Operations Research LS” for the graduate (laurea specialistica) course in Computer Science Engineering of the University of Bologna (Second Faculty of Engineering at Cesena).

In 2001 he was Tutor of the courses “Operations Research LA” and “Laboratory of Operations Research LA” for the undergraduate course in Computer Science Engineering of the university of Bologna.

In 2001 he was Lecturer of the course “Operations Research LA” for the undergraduate course in Computer Science Engineering of the university of Parma.

From 2002 to 2004 he was Tutor of the course “Operations Research LA” for the undergraduate course in Management Engineering of the university of Bologna.

From 2005 to 2012 he was in charge of the course “Operations Research 2” for the graduate course (laurea specialistica) in Computer Science Engineering of the university of Padova.

From 2005 to 2011 he was Lecturer of the course “Operations Research 1” for the undergraduate course in Computer Science Engineering of the university of Padova.

From 2012 to 2016 he was in charge of the course “Mathematical Programming” for the graduate course (laurea specialistica) in Automation Engineering of the university of Padova.

Since 2016 he is in charge of the course “Fondamenti di Ricerca Operativa L-A” for the undergraduate course (laurea triennale) in Management Engineering of the university of Bologna.

Since 2016 he is in charge of the course “Resources Optimization M” for the graduate course (laurea specialistica) in Management Engineering of the university of Bologna.

In 2017-2018 he was in charge of a module of the course “Optimization Models and Algorithms M” for the graduate course (laurea specialistica) in Automation engineering of the university of Bologna.

Since 2018-2019 he is in charge of a module of the course “Advanced Prescriptive Analytics M”, for the graduate course (laurea specialistica) in Telecommunications engineering of the university of Bologna.

Since November 2020, Michele Monaci is the Coordinator of the PhD Programme IBES “Biomedical, Electrical and System Engineering”.

Michele Monaci was in the PhD Board of PhD programs of the University of Padova in 2014 and 2015. Since 2016 he is in the PhD Board of the IBES PhD program of the University of Bologna.

He has been advisor of the PhD thesis by Federico Naldini “Optimization Algorithms for Energy-Efficient Train Operations in Real-Time Traffic Management” discussed at the University of Bologna (2022)

He has been co-advisor of the PhD thesis by Enrico Pietrobuoni “Two-Dimensional Bin Packing Problem with Guillotine Restrictions” discussed at the University of Bologna (2015) and by Naga Venkata Chaitanya Gudapati “Networks: A study in Analysis and Design” discussed at the University of Bologna (2022).

He is currently advisor of Henri Lefebvre and Silvia Anna Cordieri, and co-advisor of Antonio Punzo and Francesco Cavaliere, who are enrolled in the IBES PhD Program at the University of Bologna. He is currently co-advisor of Lorenzo Carmelo Zingali, who is enrolled in the Civil, Chemical, Environmental and Materials engineering PhD Program at the University of Bologna.

He has been referee/rapporteur of the PhD thesis by:

- Eduardo Alvarez Miranda “Networks, Uncertainty, Applications and a Crusade for Optimality”, University of Bologna, April 3rd, 2014;
- Tiziano Parriani “Decomposition Methods and Network Design Problems”, University of Bologna, April 3rd, 2014;
- Paolo Tubertini “Operational Research applied to Regional Healthcare System”, University of Bologna, April 3rd, 2014;
- Youcef Sahraoui “Short-term hydropower production scheduling: feasibility and modeling”, Université Paris-Saclay, June 9th, 2016.
- Daniele De Gregorio “Scene mapping and Understanding by Robotic Vision”, University of Bologna, May 8th, 2018.
- Alessandro Bosso “Advanced computational-effective control and observation schemes for constrained nonlinear systems”, University of Bologna, March 31st, 2020.
- Alessandro Melis “Robust controllers design for unknown error and exosystem: an hybrid optimization and output regulation approach”, University of Bologna, March 31st, 2020.
- Paolo Paronuzzi “Models and algorithms for decomposition problems”, University of Bologna, March 31st, 2020.

## Scientific Activity

The scientific and research activities of Michele Monaci have been mainly devoted to the design and analysis of models and algorithms for Combinatorial Optimization problems, with a particular emphasis to problems arising in real-world applications. In particular, he examined the following topics:

- Exact, heuristic and approximate algorithms for two-dimensional packing problems
- Heuristic algorithms for railway applications
- Models and algorithms for Staff Scheduling Problems
- Exact and heuristic algorithms for Parallel Machine Scheduling Problems
- Exact and heuristic algorithms for Graph Coloring Problems
- Heuristic and meta-heuristic algorithms for Vehicle Routing Problems
- Robust Optimization
- Exact and approximate algorithms for Mixed Integer Programming

- Non-Linear Optimization Problem
- Optimization problems for airline applications
- Optimization problems for green energy applications
- Algorithms for the Steiner Tree Problem
- Optimization problems in social networks
- Bilevel Optimization

Michele Monaci is in the Editorial Board of *Computational Optimization and Applications* (COAP) and *A Quarterly Journal of Operations Research* (4OR).

In addition, he regularly acts as referee for the following international journals: Annals of Operations Research, European Journal of Operational Research, Transportation Science, INFORMS Journal on Computing, Journal of Scheduling, Mathematical Programming, Mathematical Programming Computation, Journal of Discrete Algorithms, Computers & Operations Research, Operations Research, Journal of Combinatorial Optimization, Discrete Optimization e Operations Research Letters.

Since 2017 he is member of the Program Committee of ESICUP (the EURO Working Group on Cutting and Packing), and member of the scientific committee of the annual ESICUP conferences.

He was in the Program Committee of the conference CPAIOR 2017.

He was member of the Program Committee of the conference ICORES 2012, ICORES 2013, ICORES 2014, ICORES 2015, ICORES 2016 and ICORES 2017.

He was in the Organizing Committee of the conference EURO/ALIO 2018.

He was also referee for the main international conferences: IPCO, CPAIRO, ESA.

He has been invited speaker at national and international seminars and conferences, among which:

- VIII-th Aussois Workshop on Combinatorial Optimization: “A Set-Covering Based Heuristic Approach for Bin-Packing Problems” (Aussois, France, March 2003).
- University of Firenze: “2-Dimensional packing: problems and applications” (Firenze, Italy, October 2008)
- 2010 Mixed Integer Programming Workshop (MIP 2010): “Branching on Nonchimerical Fractionalities” (Atlanta, GA, USA, July 2010).
- University of Graz: “2-Dimensional Packing in Wireless Telecommunications” (Graz, Austria, April 2011).
- The 15th Conference on Integer Programming and Combinatorial Optimization (IPCO 2011): “Backdoor Branching” (New York, NY, USA, June 2011).
- XVI-th Aussois Workshop on Combinatorial Optimization: “Three ideas for the Quadratic Assignment Problem” (Aussois, France, January 2012).
- XVII-th Aussois Workshop on Combinatorial Optimization: “Optimality-based Domain Reductions for Global Optimization” (Aussois, France, January 2013).
- Federal University of Viçosa “2-Dimensional Packing Problems and Applications in Telecommunications” (Viçosa, MG, Brasil, May 2014).

- 2014 Mixed Integer Programming Workshop (MIP 2014): “Proximity Search” (Columbus City, OH, USA, July 2014).
- Federal University of Viçosa “MIP heuristics” (Viçosa, MG, Brasil, September 2014).
- Zuse Institute Berlin “Two-Dimensional Cutting with Guillotine Constraints” (Berlin, Germany, April 2015).
- Federal University of Rio de Janeiro “Guillotine Constraints in Two-Dimensional Cutting and Packing” (Rio de Janeiro, RJ, Brasil, August 2015).
- XXI-th Aussois Workshop on Combinatorial Optimization: “Reformulation Heuristics for Generalized Interdiction Problems” (Aussois, Francia, January 2017).
- 16-th ESICUP workshop: “Knapsack problem and variants” (Mexico City, Mexico, April 2019).
- AIRO PhD School 2021: “A gentle introduction to approximation algorithms” (Napoli, Marzo 2021)

## • Prizes

He won the “Best ITS Application Paper” at the 2nd International Conference on Models and Technologies for Intelligent Transportation Systems (Leuven, Belgium, June 22-24, 2011) with paper “Efficiency and Robustness in a Support Platform for Intelligent Airport Ground Handling” (with G. Andreatta, L. Capanna, L. De Giovanni and L. Righi).

He won the 11th DIMACS Implementation Challenge for the best computer codes for Steiner Tree problems (codes *mozartballs*, *mozartduet* and *staynerd* developed jointly with M. Fischetti, M. Leitner, I. Ljubić, M. Luiprbeck, M. Resch, D. Salvagnin and M. Sinnl), 2014.

He won the COAP 2016 Best Paper prize assigned by the Editorial Board of Combinatorial Optimization and Applications to the best paper published in 2016 with paper [43] (with P. Belotti, P. Bonami, M. Fischetti, A. Lodi, A. Nogales-Gómez and D. Salvagnin).

He has been finalist for the EURO Excellence in Practice Award 2018 at the EURO 2018 conference (Valencia, Spagna, July 8-11, 2018) with paper “The OR revolution in Vattenfall BA Wind” (with M. Fischetti, J.R. Kristoffersen and D. Pisinger).

He won the “AIRO Best Application-Oriented Paper” at the ODS 2018 conference (Taormina, September 10-13, 2018) with paper “Operational Research in modern wind park design” (with M. Fischetti, M. Fraccaro and D. Pisinger).

He is finalist for the 2019 INFORMS Franz Edelman Award with paper “Vattenfall Gets Hundreds of Millions in Gains Through the Application of Operations Research for Offshore Wind Farm Design” (with M. Fischetti, J.R. Kristoffersen, T. Hjort and D. Pisinger).

## List of publications

### Journals

- [1] A. Lodi, S. Martello, M. Monaci, “Two-dimensional packing problems: A survey”, *European Journal of Operational Research* 141 (2), 241–252, 2002.
- [2] S. Martello, M. Monaci, D. Vigo, “An Exact Approach to the Strip-Packing Problem”, *INFORMS Journal on Computing* 15 (3), 310–319, 2003.
- [3] A. Lodi, M. Monaci, “Integer linear programming models for 2-staged two-dimensional Knapsack problems”, *Mathematical Programming* 94 (2-3), 257–278, 2003.
- [4] A. Caprara, M. Monaci, P. Toth, “Models and algorithms for a staff scheduling problem”, *Mathematical Programming* 98 (1-3), 445–476, 2003.
- [5] M. Monaci, “Algorithms for packing and scheduling problems”, *4OR* 1 (1), 85–87, 2003.
- [6] A. Caprara, M. Monaci, “On the two-dimensional Knapsack Problem”, *Operations Research Letters* 32 (1), 5–14, 2004.
- [7] A. Caprara, A. Lodi, M. Monaci, “Fast Approximation Schemes for Two-Stage, Two-Dimensional Bin Packing”, *Mathematics of Operations Research* 30 (1), 150–172, 2005.
- [8] M. Dell’Amico, M. Iori, S. Martello, M. Monaci, “Lower bounds and heuristic algorithms for the  $k_i$ -partitioning problem”, *European Journal of Operational Research* 171 (3), 725–742, 2006.
- [9] M. Monaci, P. Toth, “A Set-Covering-Based Heuristic Approach for Bin-Packing Problems”, *INFORMS Journal on Computing* 18 (1), 71–85, 2006.
- [10] A. Caprara, M. Monaci, P. Toth, P.L. Guida, “A Lagrangian heuristic algorithm for a real-world train timetabling problem”, *Discrete Applied Mathematics* 154 (5), 738–753, 2006.
- [11] A. Caprara, A. Lodi, S. Martello, M. Monaci, “Packing into the smallest square: Worst-case analysis of lower bounds”, *Discrete Optimization* 3 (4), 317–326, 2006.
- [12] M. Dell’Amico, M. Monaci, C. Pagani, D. Vigo, “Heuristic Approaches for the Fleet Size and Mix Vehicle Routing Problem with Time Windows”, *Transportation Science* 41 (4), 516–526, 2007.
- [13] M. Fischetti, M. Monaci, “How tight is the corner relaxation?”, *Discrete Optimization* 5 (2), 262–269, 2008.
- [14] E. Malaguti, M. Monaci, P. Toth, “A Metaheuristic Approach for the Vertex Coloring Problem”, *INFORMS Journal on Computing* 20 (2), 302–316, 2008.
- [15] M. Dell’Amico, M. Iori, S. Martello, M. Monaci, “Heuristic and Exact Algorithms for the Identical Parallel Machine Scheduling Problem”, *INFORMS Journal on Computing* 20 (3), 333–344, 2008.
- [16] A. Caprara, M. Monaci, “Bidimensional packing by bilinear programming”, *Mathematical Programming* 118 (1), 75–108, 2009.
- [17] M. Battarra, M. Monaci, D. Vigo, “An adaptive guidance approach for the heuristic solution of a minimum multiple trip vehicle routing problem”, *Computers & Operations Research* 36 (11), 3041–3050, 2009.
- [18] E. Malaguti, M. Monaci, P. Toth, “Models and heuristic algorithms for a weighted vertex coloring problem”, *Journal of Heuristics* 15 (5), 503–526, 2009.
- [19] A. Caprara, A. Lodi, M. Monaci, “An approximation scheme for two-stage, two-dimensional knapsack problem”, *Discrete Optimization* 7 (3), 114–124, 2010.

- [20] E. Malaguti, M. Monaci, P. Toth, “An exact approach for the Vertex Coloring Problem”, *Discrete Optimization* 8 (2), 174–190, 2011.
- [21] C. Cicconetti, L. Lenzini, A. Lodi, S. Martello, E. Mingozzi, M. Monaci, “A fast and efficient algorithm to exploit multi-user diversity in IEEE 802.16 BandAMC”, *Computers Networks* 55 (16), 3680–3693, 2011.
- [22] A. Lodi, S. Martello, M. Monaci, C. Cicconetti, L. Lenzini, E. Mingozzi, C. Eklund, J. Moilanen, “Efficient Two-Dimensional Packing Algorithms for Mobile WiMAX”, *Management Science* 57 (12), 2130–2144, 2011.
- [23] M. Dolatabadi, A. Lodi, M. Monaci, “Exact algorithms for the two-dimensional guillotine knapsack”, *Computers & Operations Research* 39 (1), 48–53, 2012.
- [24] C.A.J. Hurkens, A. Lodi, S. Martello, M. Monaci, G.J. Woeginger, “Complexity and approximation of an area packing problem”, *Optimization Letters* 6 (1), 1–9, 2012.
- [25] M. Fischetti, M. Monaci, “Branching on nonchimerical fractionalities”, *Operations Research Letters* 40 (3), 159–164, 2012.
- [26] M. Fischetti, M. Monaci, “Cutting plane versus compact formulations for uncertain (integer) linear programs”, *Mathematical Programming Computation*, 4 (3), 239–273, 2012.
- [27] M. Fischetti, M. Monaci, D. Salvagnin, “Three ideas for the Quadratic Assignment Problem”, *Operations Research*, 60 (4), 954–964, 2012.
- [28] M. Dell’Amico, M. Iori, S. Martello, M. Monaci, “A note on exact and heuristic algorithms for the identical parallel machine scheduling problem”, *Journal of Heuristics*, 18 (6), 939–942, 2012.
- [29] M. Monaci, U. Pferschy, P. Serafini, “Exact solution of the robust knapsack problem”, *Computers & Operations Research* 40 (11), 2625–2631, 2013.
- [30] M. Fischetti, M. Monaci, “Backdoor Branching”, *INFORMS Journal on Computing* 25 (4), 693–700, 2013.
- [31] M. Monaci, U. Pferschy, “On the Robust Knapsack Problem”, *SIAM Journal on Optimization* 23 (4), 1956–1982, 2013.
- [32] C. Cicconetti, L. Lenzini, A. Lodi, S. Martello, E. Mingozzi, M. Monaci, “Efficient Two-Dimensional Data Allocation in IEEE 802.16 OFDMA”, *IEEE/ACM Transactions on Networking*, 22 (5), 1645–1658, 2014.
- [33] M. Fischetti, M. Monaci, “Exploiting Erraticism in Search”, *Operations Research*, 62 (1), 114–122, 2014.
- [34] G. Andreatta, L. Capanna, L. De Giovanni, M. Monaci, L. Righi, “Efficiency and Robustness in a Support Platform for Intelligent Airport Ground Handling”, *Journal of Intelligent Transportation Systems*, 18 (1), 121–130, 2014.
- [35] M. Fischetti, M. Monaci, “Proximity search for 0-1 mixed-integer convex programming”, *Journal of Heuristics*, 20 (6), 709–731, 2014.
- [36] G. Andreatta, L. De Giovanni, M. Monaci, “A Fast Heuristic for Airport Ground-Service Equipment-and-Staff Allocation”, *Procedia - Social and Behavioral Sciences*, 108, 26–36, 2014.
- [37] S. Martello, M. Monaci, “Models and algorithms for packing rectangles into the smallest square”, *Computers & Operations Research* 63, 161–171, 2015.
- [38] M. Fischetti, A. Lodi, M. Monaci, D. Salvagnin, A. Tramontani “Improving branch-and-cut performance by random sampling”, *Mathematical Programming Computation*, 8 (1), 113–132, 2016.



- [39] N. Boland, M. Fischetti, M. Monaci, M. Savelsbergh “Proximity Benders: a decomposition heuristic for stochastic programs”, *Journal of Heuristics*, 22 (2), 181–198, 2016.
- [40] A. Caprara, M. Locatelli, M. Monaci “Theoretical and computational results about optimality-based domain reductions”, *Computational Optimization and Applications*, 64 (2), 513–533, 2016.
- [41] M. Fischetti, M. Monaci, “Proximity search heuristics for wind farm optimal layout”, *Journal of Heuristics*, 22 (4), 459–474, 2016.
- [42] M. Fischetti, M. Monaci, D. Salvagnin “Mixed-integer linear programming heuristics for the prepack optimization problem”, *Discrete Optimization*, 22, 195–205, 2016.
- [43] P. Belotti, P. Bonami, M. Fischetti, A. Lodi, M. Monaci, A. Nogales-Gómez, D. Salvagnin “On handling indicator constraints in mixed integer programming”, *Computational Optimization and Applications*, 65 (3), 545–566, 2016.
- [44] A. Lodi, M. Monaci, E. Pietrobuoni “Partial enumeration algorithms for Two-Dimensional Bin Packing Problem with guillotine constraints”, *Discrete Applied Mathematics*, 217 (1), 40–47, 2017.
- [45] M. Fischetti, M. Leitner, I. Ljubić, M. Luipersbeck, M. Monaci, M. Resch, D. Salvagnin, M. Sinnl “Thinning out Steiner trees: a node-based model for uniform edge costs”, *Mathematical Programming Computation*, 9 (2), 203–229, 2017.
- [46] M. Fischetti, M. Monaci, “Using a general-purpose Mixed-Integer Linear Programming solver for the practical solution of real-time train rescheduling”, *European Journal of Operational Research*, 263 (1), 258–264, 2017.
- [47] M. Fischetti, I. Ljubić, M. Monaci, M. Sinnl, “A New General-Purpose Algorithm for Mixed-Integer Bilevel Linear Programs”, *Operations Research* 65 (6), 1615–1637, 2017.
- [48] F. Furini, M. Monaci, E. Traversi, “Exact approaches for the knapsack problem with setups”, *Computers & Operations Research* 90, 208–220, 2018.
- [49] M. Fischetti, M. Monaci, M. Sinnl, “A dynamic reformulation heuristic for Generalized Interdiction Problems”, *European Journal of Operational Research* 267 (1), 40–51, 2018.
- [50] M. Fischetti, M. Monaci, D. Salvagnin, “Selfsplit parallelization for mixed-integer linear programming”, *Computers & Operations Research* 93, 101–112, 2018.
- [51] C. D’Ambrosio, F. Furini, M. Monaci, E. Traversi, “On the Product Knapsack Problem”, *Optimization Letters* 12 (4), 691–712, 2018.
- [52] M. Fischetti, M. Kahr, M. Leitner, M. Monaci, M. Ruthmair, “Least cost influence propagation in (social) networks”, *Mathematical Programming* 170 (1), 293–325, 2018.
- [53] M. Fischetti, I. Ljubić, M. Monaci, M. Sinnl, “On the use of intersection cuts for bilevel optimization”, *Mathematical Programming* 172 (1-2), 77–103, 2018.
- [54] M. Monaci, A.G. dos Santos “Minimum tiling of a rectangle by squares”, *Annals of Operations Research* 271 (2), 831–851, 2018.
- [55] E. Malaguti, M. Monaci, P. Paronuzzi, U. Pferschy, “Integer optimization with penalized fractional values: The Knapsack case”, *European Journal of Operational Research* 273 (3), 874–888, 2019.
- [56] M. Fischetti, I. Ljubić, M. Monaci, M. Sinnl, “Interdiction Games and Monotonicity, with Application to Knapsack Problems”, *INFORMS Journal on Computing* 31 (2), 390–410, 2019.
- [57] M. Fischetti, M. Monaci, “A branch-and-cut algorithm for Mixed-Integer Bilinear Programming”, *European Journal of Operational Research* 282 (2), 506–514, 2020.
- [58] M. Fischetti, J.R. Kristoffersen, T. Hjort, M. Monaci, D. Pisinger “Vattenfall Optimizes Offshore Wind Farm Design”, *INFORMS Journal on Applied Analytics* 50 (1), 80–94, 2020.

- [59] S. Martello, M. Monaci, “Algorithmic approaches to the multiple knapsack assignment problem”, *Omega* 90: 102004, 2020.
- [60] C. D’Ambrosio, S. Martello, M. Monaci, “Lower and upper bounds for the non-linear generalized assignment problem”, *Computers & Operations Research* 120: 104933, 2020.
- [61] M. Iori, V.L. de Lima, S. Martello, F.K. Miyazawa, M. Monaci, “Exact Solution Techniques for Two-dimensional Cutting and Packing”, *European Journal of Operational Research* 289 (2), 399–415, 2021.
- [62] G. Homsí, J. Jordan, S. Martello, M. Monaci, “The assignment and loading transportation problem”, *European Journal of Operational Research* 289 (3), 999–1007, 2021.
- [63] V. Bo, M. Bortolini, E. Malaguti, M. Monaci, C. Mora, P. Paronuzzi, “Models and Algorithms for Integrated Production and Distribution Problems”, *Computers & Industrial Engineering*, 154: 107003, 2021.
- [64] N.V.C. Gudapati, E. Malaguti, M. Monaci, “In Search of Dense Subgraphs: How Good is Greedy Peeling?”, *Networks* 77 (4), 572–586, 2021.
- [65] M. Iori, V.L. de Lima, S. Martello, M. Monaci, “2DPackLib: A Two-dimensional Cutting and Packing Library”, *Operations Research Letters* 16, 471–480, 2022.
- [66] M. Monaci, C. Pike-Burke, A. Santini, “Exact algorithms for the 0–1 Time-Bomb Knapsack Problem”, *Computers and Operations Research* 145 (2022), 105848.
- [67] N.V.C. Gudapati, E. Malaguti, M. Monaci, “Network Design with Service Requirements: Scaling-up the Size of Solvable Problems”, *INFORMS Journal on Computing* 34 (5), 2571–2582, 2022.
- [68] E. Malaguti, M. Monaci, J. Prunte, “ $K$ -Adaptability in stochastic optimization”, *Mathematical Programming* 196, 567–595, 2022.
- [69] M. Leitner, I. Ljubic, M. Monaci, M. Sinnl, K. Taninmis, “An Exact Method for Fortification Games”, accepted for publication on *European Journal of Operational Research*

### Conference Proceedings and Volumes

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