Alberto Santini

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Affiliations   Pompeu Fabra University, Spain
                Department of Economics and Business
                Tenure-track assistant professor and "Juan de la Cierva" professor

                Barcelona Graduate School of Economics, Spain
                Affiliate professor

                Barcelona Graduate School of Mathematics, Spain
                Affiliate professor

Past Positions

Jan–Aug 2017   RWTH Aachen, Germany
                Deutsche Post Chair for the Optimisation of Distribution Networks
                Postdoctoral Researcher, under Prof. Michael Schneider

Education

2014–16   University of Bologna, Italy
           Ph.D. in Automatic Control and Operational Research
           Supervisors: Silvano Martello, Daniele Vigo

2011–13   University of Copenhagen, Denmark
           M.Sc. in Mathematics, part of the Master of Excellence programme
           Thesis advisors: Stefan Røpke and Louise Kallehague. Grade: 12/12

2008–10   University of Catania, Italy
           B.Sc. in Mathematics
           Thesis advisor: Angelo Bella. Grade: 110/110 summa cum laude

2002–07   Liceo Scientifico "A. Volta", Caltanissetta, Italy
           Scientific Diploma
           Grade: 100/100

Publications Journal Papers (published or submitted)

2018   1. Enrico Malaguti, Silvano Martello, and Alberto Santini. "The Traveling Salesman Problem with Pickups, Deliveries, and Draft Limits". In: *Omega* 74 (2018), pp. 50–58. DOI: 10.1016/j.omega.2017.01.005

        2. Fabio Furini, Enrico Malaguti, and Alberto Santini. "An Exact Algorithm for the Partition Coloring Problem". In: *Computers & Operations Research* 92 (2018), pp. 170–181. DOI: 10.1016/j.cor.2017.12.019

        3. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. "A comparison of acceptance criteria for the Adaptive Large Neighbourhood Search metaheuristic". In: *Journal of Heuristics* 24 (5 2018), pp. 783–815. DOI: 10.1007/s10732-018-9377-x

        4. Alberto Santini. "An ALNS heuristic for the Orienteering Problem". In: *Expert Systems with Applications* Under revision (2018)

2017	5. Alberto Santini, Stefan Ropke, and Christian E.M. Plum. "A branch-and-price approach to the Feeder Network Design Problem". In: *European Journal of Operational Research* 264 (2 2017), pp. 607–622. DOI: 10.1016/j.ejor.2017.06.063
	6. Andrea Bettinelli, Alberto Santini, and Daniele Vigo. "A real-time conflict solution algorithm for the Train Rescheduling Problem". In: *Transportation Research Part B* 106 (2017), pp. 237–265. DOI: 10.1016/j.trb.2017.10.005
2015	7. Alberto Santini, Henrik Alsing Friberg, and Stefan Ropke. "A note on a model for quay crane scheduling with non-crossing constraints". In: *Engineering Optimization* 47.6 (2015), pp. 860–865. DOI: 10.1080/0305215X.2014.958731

Publications Journal Papers (in preparation)

2018	8. Christian Blum, Alberto Santini, Hua Jiang, Chu-Min Li, Felip Manyà, and Marko Djukanovic. "An exact algorithm for a large class of longest common subsequence prblems". In: *In preparation* (2018)
	9. Eduardo Álvarez-Miranda, Elena Fernández, and Alberto Santini. "Algorithms for the postal zoning problem for packet delivery". In: *In preparation* (2018)
	10. Alberto Santini, Michael Schneider, Thibaut Vidal, and Daniele Vigo. "On the impact of decomposition strategies for solving large-scale Capacitated Vehicle Routing Problems". In: *In preparation* (2018)

Technical Reports

| 2015 | 11. Valentina Cacchiani, Alberto Santini, and Daniele Vigo. *A study on metaheuristic approaches to the energy-efficient Train Timetabling Problem*. Tech. rep. OR-15-6. DEI, University of Bologna, 2015 |
| 2014 | 12. Valentina Cacchiani, Alberto Santini, and Daniele Vigo. *A novel modelling approach to the Train Timetabling Problem*. Tech. rep. OR-14-27. DEI, University of Bologna, 2014 |

Conference Talks

2018	13. Alberto Santini and Christian Blum. "Solving a class of longest subsequence problems via maximum cliques". In: *ODS Conference*. 2018
	14. Alberto Santini. "An ALNS heuristic for the Orienteering Problem". In: *EURO Conference*. 2018
	15. Alberto Santini. "A hybrid Machine Learning and ALNS approach to the Orienteering Problem". In: *EURO/ALIO Conference*. 2018
2017	16. Fabio Furini, Enrico Malaguti, and Alberto Santini. "Exact and heuristic algorithms for the partition colouring problem". In: *ODS Conference*. 2017
2016	17. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. "Poster: A comparison of acceptance criteria for the ALNS metaheuristic". In: *AIRO Conference*. 2016
	18. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. "A comparison of acceptance criteria for the Adaptive Large Neighbourhood Search metaheuristic". In: *EURO Conference*. 2016
2015	19. Enrico Malaguti, Silvano Martello, and Alberto Santini. "A maritime version of the Travelling Salesman Problem". In: *Odysseus Conference*. 2015
	20. Alberto Santini, Stefan Ropke, and Christian E.M. Plum. "A rich maritime extension of the Vehicle Routing Problem". In: *AIRO Conference*. 2015
2014	21. Enrico Malaguti, Silvano Martello, and Alberto Santini. "The Travelling Salesman Problem with pickup, delivery and draught limits". In: *AIRO Conference*. 2014

Academic experience Organisations

2019–2021 Elected member of the Board of Directors
Part of the 12-persons board of directors of AIRO, the Italian Operational Research Association.

2018 Founder
Founded EUROYoung, a group of young O.R. scientists from EURO member countries, with the aim of organising training events for early-stage researchers.

2016–18 Coordinator
Coordinator of AIROYoung, the youth chapter of the Italian Operational Research Association. During my tenure as coordinator, I organised two workshops securing funding from Italian and European institutions; I created a database of young talents in O.R. and of open positions, helping matching O.R. scientists with relevant opportunities; I helped enroll new young members into AIRO, from Italy and other European countries.

2016 Founder
Founder of AIROYoung, the youth chapter of the Italian Operational Research Association.

Academic experience Seminars and Workshops

Mar 2019 Member of the Organising Committee
The 3rd AIROYoung Workshop and 1st AIROYoung PhD School. Invited speakers: Teodor Crainic and Endre Boros. Rome, Italy, 26–29 Mar 2019.

2018-19 Coordinator of the "Marketing and Operational Research" seminar series
This is a series of weekly seminars at the Department of Economics and Business of Pompeu Fabra University, with invited speakers from all over the world.

Mar 2018 Member of the Organising Committee
The 2nd AIROYoung Workshop, on the theme "Logistics optimisation and applied operational research". Invited speakers: Geir Hasle and Roberto Roberti. Cosenza, Italy, 03–05 Mar 2018.

Feb 2017 Workshop Organiser
Organised, together with Lavinia Amorosi, the 1st AIROYoung Workshop, on the theme "Emerging Optimization Problems on Complex Networks". Invited speakers: Justo Puerto and Maria Grazia Scutellà. Rome, Italy, 16–17 Feb 2017.

2016 EURO Young Researchers OR Webinars Organiser
Organised a series of OR webinars by and for young researchers from all over the world, sponsored by EURO.

2015 Seminars Organiser
Organised of a series of doctoral seminars within the Operational Research group at DEI, University of Bologna, involving local and visiting researchers.

Academic experience Conferences

Jul 2019 Member of the Programme Committee (ECON track)
GECCO2019, the The Genetic and Evolutionary Computation Conference. Prague, Czech Republic.

Jan 2019 Member of the Programme Committee
HM2019, the 11th International Workshop on Hybrid Metaheuristics. Concepción, Chile.

Sep 2018 Member of the Organising Committee and Session Chair
ODS 2018, Optimisation and Decision Science Conference. Chair of the "AIROYoung" session. Taormina, Italy.

Jun 2018 Session Chair
"EURO Young" session at the EURO 2018 Conference. Valencia, Spain.

Jun 2018	Session Chair
	"AIROYoung" session at the EURO/ALIO 2018 Conference. Bologna, Italy.
Sep 2017	Session Chair
	"AIROYoung" session at the ODS 2017, Optimisation and Decision Science Conference. Sorrento, Italy.
Sep 2016	Poster Session Chair
	"Young OR Researchers Poster Session" at the AIRO 2016 Conference. Trieste, Italy.
Jul 2016	Session Chair
	"Methodological advancements in metaheuristics" session at the EURO 2016 Conference. Poznan, Poland.
Sep 2015	Session Chair
	"Exact Methods for Routing Problems" at the AIRO 2015 Conference. Pisa, Italy.

Academic experience Teaching

2019	Practical Data Science for Operations Management
	Barcelona School of Management, Pompeu Fabra University, M.Sc. in Management.
2018	Machine Learning
	RWTH Business School, M.Sc. in Data Analytics and Decision Science.
2018	Operations Management
	Pompeu Fabra University, Bachelor's in Business Management Administration.
2018–19	Operations Management
	Pompeu Fabra University, Bachelor's in International Business Economics.
2017	Optimisation methods for Big Data Analytics
	RWTH Aachen, Master's in Management, Business, and Economics.
2016–17	Foundations of OR (teaching assistant)
	A-K cohort taught by Enrico Malaguti, L-Z cohort taught by Michele Monaci.
	University of Bologna, B.Eng. in Management Engineering.
2014–18	Optimisation Algorithms (teaching assistant)
	Course taught by Paolo Toth.
	University of Bologna, M.Eng. in Computer Engineering.

Academic experience Evaluation Commitees

2018	Grant proposal evaluator
	"FONDECYT Initiation into Research" programme, Chilean National Science and Technology Commission.
2018–19	Member of the M.Sc. Thesis Defence Committee
	Master's in Statistics and Operational Research, Polytechnic University of Catalunya, Spain.

Academic experience Visiting Positions

Nov 2017	INSEC-TEC, Portugal
	Visiting as part of a Short-Term Scientific Mission for COST Action "European Network for Collaboration on Kidney Exchange Programmes". Working with Ana Viana, João Pedro Pedroso, and Xenia Klimentova.
Jul-Oct 2016	Amazon Inc.
	Visiting Research Scientist in Seattle, USA. Working with Mauricio Resende and Andrew Goldberg.
Feb 2016	Vrije Universiteit Amsterdam

	Visiting Ph.D. Student at the Department of Information, Logistics and Innovation. Working with Wout Dullaert.
Nov 2015	University of Calabria
	Visiting Ph.D. Student at the Department of Mechanical, Energy and Management Engineering. Working with Demetrio Laganà.
Mar-May 2015	Danish Technical University (DTU)
	Visiting Ph.D. Student at the Department of Management Engineering. Working with Stefan Røpke.

Grants

2018–20	Juan de la Cierva Formación
	Two-year grant from the Spanish government. Ranked 1st out of 49 participants from all areas of Mathematics, with a score of 99/100.
2017	COST STSM Grant
	Short-Term Scientific Mission grant to conduct research at INESC-TEC under COST Action "European Network for Collaboration on Kidney Exchange Programmes". Funded: 1 500 Eur.
2016	PRIN (Research Projects of Relevant National Interest) 2016
	Part of the group awarded for the project "Transportation and Logistics Optimization in the Era of Big and Open Data". Total funded: 840 638 Eur.
2016	Association of European Operational Research Societies (EURO)
	Grant to organise the "EURO Young Researchers OR Webinars". Funded: 1 000 Eur.
2015	Marco Polo scholarship
	Grant to conduct research abroad. Funded: 1 878 Eur (three months).
2014–16	Ph.D. grant by the University of Bologna
	Ranked 1st out of 9 qualified participants, with a score of 92/100. Funded: 40 915 Eur (three years).

Invited talks

2018	"What can economists learn from the Machine Learning approach and toolset?"
	Pompeu Fabra University. Part of the course "Research Seminars", M.Res. in Economics, Finance, and Management.
2016	"A real-time conflict resolution algorithm for the train rescheduling problem."
	Invited to present at: Vrije Universiteit, Amsterdam (Feb 2016); Danish Technical University (DTU), Kongens Lyngby (Oct 2016); DSB Training Centre, Nyborg (Oct 2016).
2015	"TSP with pickups, deliveries, and draught limits."
	University of Bologna. Part of a series of seminars held by Ph.D. students and young researchers.
2014	"Recent trends in Operational Research and practical business applications."
	American University of Armenia; series of two seminars at the College of Science and Engineering.
2014	"Data Enevelopment Analysis and OR applications in measuring efficiency."
	University of Bologna. Part of the course "Resource Optimization", M.Eng. in Management Engineering.

Supervised projects and theses

Apr-Sep 2017	Project, M.Sc. in Management, Business, and Economics, RWTH Aachen
	Supervisor, "Improving document-level machine translation with `word2vec`", Sean Eulenberg.

Apr-Sep 2017	Master's Thesis, M.Sc. in Management, Business, and Economics, RWTH Aachen Co-supervisor, "A heuristic algorithm for the electric pickup and delivery problem", Lutz Venhofen.
Sep-Dec 2016	Master's Thesis, M.Eng. in Management Engineering, University of Bologna Co-supervisor, "Embedding robustness in train rescheduling algorithms", Alessandro Morandi.
Feb-Apr 2016	Project, M.Eng. in Computer Engineering, University of Bologna Co-supervisor, "A genetic algorithm for real-time energy optimisation of train timetables", Francesco Di Lella.
Sep-Dec 2015	Master's Thesis, M.Eng. in Management Engineering, University of Bologna Co-supervisor, "Metaheuristic algorithms for energy optimisation in train timetabling and rescheduling", Hang Xu.
Mar-Jun 2015	Project, M.Eng. in Computer Engineering, University of Bologna Co-supervisor, "A constructive heuristic for the dispatching problem on multi-track territories", Giacomo Dall'Olio and Simone Laierno.
Aug-Nov 2014	Master's Thesis, M.Eng. in Management Engineering, University of Bologna Co-supervisor, "Valutazione della Performance di un caso di Customer Contact Desk attraverso l'applicazione della metodologia Data Envelopment Analysis", Martina Carli.

Work experience

2016	Amazon Research Scientist Intern. Seattle, USA.
2012–13	Procter & Gamble Strategic Sourcing Intern. Bruxelles, Belgium.
2012	WISON Offshore & Marine Procurement Trainee. Shanghai, China.
2011–12	Amiiko Ruby on Rails Developer. Copenhagen, Denmark.

Other

Languages	Italian: mothertongue English: fluent French: very good Spanish: very good
Volunteering	Italian Red Cross Danish Red Cross Big Brother / Big Sister Project Kongelunden, Copenhagen, Denmark