

Alberto Santini

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Affiliations [Tenure-track assistant professor](#)
Department of Economics and Business, Universitat Pompeu Fabra, Spain
[Affiliate professor](#)
Barcelona Graduate School of Economics, Spain

Past Positions

JAN-AUG 2017 [RWTH Aachen, Germany](#)
Postdoctoral Researcher, under Prof. Michael Schneider
Deutsche Post Chair for the Optimisation of Distribution Networks

Education

2014-16 [University of Bologna, Italy](#)
PhD in Automatic Control and Operational Research
Supervisors: Silvano Martello, Daniele Vigo

2011-13 [University of Copenhagen, Denmark](#)
MSc in Mathematics, part of the Master of Excellence programme
Grade: 12/12

2008-10 [University of Catania, Italy](#)
BSc in Mathematics
Grade: 110/110 summa cum laude

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. “Measuring the impact of acceptance criteria on the Adaptive Large Neighbourhood Search metaheuristic”. In: *Journal of Heuristics (in press)* (2018), pp. 1–33. doi: 10.1007/s10732-018-9377-x
- 2017
4. 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
 5. 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
6. 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
7. Alberto Santini. “An ALNS heuristic for the Orienteering Problem”. In: *In preparation* (2018)
 8. Christian Blum and Alberto Santini. “An exact algorithm for a large class of longest arc-preserving common subsequence problems”. 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, et al. “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. “A hybrid Machine Learning and ALNS approach to the Orienteering Problem”. In: *EURO/ALIO Conference*. 2018
 14. Alberto Santini. “An ALNS heuristic for the Orienteering Problem”. In: *EURO Conference*. 2018
 15. Alberto Santini and Christian Blum. “Solving a class of longest subsequence problems via maximum cliques”. In: *ODS 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 Organisation

- JAN 2019
- [Member of the Programme Committee](#)
“HM 2019”, the 11th International Workshop on Hybrid Metaheuristics. Concepción, Chile.
- SEP 2018
- [Member of the Organising Committee](#) and [Session Chair](#)
“ODS 2018” Conference. Chair of the “AIRO Young” session. Taormina, Italy.

JUN 2018	Session Chair “EURO Young” session at the EURO 2018 Conference. Valencia, Spain.
JUN 2018	Session Chair “AIRO Young” session at the EURO/ALIO 2018 Conference. Bologna, Italy.
MAR 2018	Member of the Organising Committee The 2 nd AIRO Young Workshop, on the theme “Logistics optimisation and applied operational research”. Invited speakers: Geir Hasle and Roberto Roberti. Cosenza, Italy, 03-05 MAR 2018.
SEP 2017	Session Chair “AIRO Young” session at the ODS 2017 Conference. Sorrento, Italy.
FEB 2017	Workshop Organiser Organised, together with Lavinia Amorosi, the 1 st AIRO Young 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-PRESENT	Founder and Coordinator Founder and coordinator of AIRO Young, the youth chapter of the Italian Operational Research Association.
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” at the EURO 2016 Conference. Poznan, Poland.
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.
SEP 2015	Session Chair “Exact Methods for Routing Problems” at the AIRO 2015 Conference. Pisa, Italy.
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 Teaching

2018	Operations Management Pompeu Fabra University, Bachelor in Business Management Administration. Theory and Seminars.
2018	Operations Management Pompeu Fabra University, Bachelor in International Business Economics. Theory and Seminars.
2017	Optimisation methods for Big Data Analytics RWTH Aachen, Master in Management, Business, and Economics. Student evaluation: 1.5 (on a scale where 1.0 is the best evaluation, and 5.0 is the worst).
2016-17	Foundations of OR (teaching assistant) A-K cohort taught by Enrico Malaguti, L-Z cohort taught by Michele Monaci. M. Eng. in Management Engineering, University of Bologna.
2014 TO 2018	Optimisation Algorithms (teaching assistant) Course taught by Paolo Toth. M.Eng. in Computer Engineering, University of Bologna.

Academic experience Evaluation Committees

2018	Member of the MSc Thesis Defence Committee
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For the master in Statistics and Operational Research, at the Polytechnic University of Catalunya.

Academic experience Visiting Positions

Nov 2017	INSEC-TEC, Portugal Visiting Ana Viana, as part of a Short-Term Scientific Mission for COST Action “European Network for Collaboration on Kidney Exchange Programmes”.
JUL-OCT 2016	Amazon Inc. Visiting Research Scientist in Seattle, USA. Working with Mauricio Resende and Andrew Goldberg.
FEB 2016	Vrije Universiteit Amsterdam Visiting PhD Student at the Department of Information, Logistics and Innovation. Working with Wout Dul-laert.
Nov 2015	University of Calabria Visiting PhD Student at the Department of Mechanical, Energy and Management Engineering. Working with Demetrio Laganà.
MAR-MAY 2015	Danish Technical University (DTU) Visiting PhD Student at the Department of Management Engineering. Working with Stefan Røpke.

Grants

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	PhD grant by the University of Bologna Ranked 1 st out of 9 qualified participants (grade: 92/100). Funded: 40 915 Eur (three years).

Invited talks

2016	“A real-time conflict resolution algorithm for the train rescheduling problem.” Invited to present at: Vrije Universiteit, Amsterdam (Feb 2016); Danish Technical University, Copenhagen (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 PhD 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 in Resource Optimization, M.Eng. in Management Engineering.

Supervised projects and theses

APR-SEP 2017	Project, M.Sc. in Business Administration and Computer Science, RWTH Aachen Supervisor, “Improving document-level machine translation with word2vec”, Sean Eulenberg.
APR-SEP 2017	Master Thesis, M.Sc. in Business Administration and Computer Science, RWTH Aachen Co-supervisor, “A heuristic algorithm for the electric pickup and delivery problem”, Lutz Venhofen.
SEP-DEC 2016	Master 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 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 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 Web 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