

# Alberto Santini

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**Position**      [Postdoctoral Researcher](#)  
Deutsche Post Chair for the Optimization of Distribution Networks  
Chair held by Prof. Michael Schneider

**Affiliation**    [RWTH Aachen](#)  
School of Business and Economics  
Kackertstraße 7 — D-52072 Aachen (Germany)

## Education

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2014-16      [University of Bologna, Italy](#)  
PhD in Automatic Control and Operational Research  
Supervisors: Silvano Martello, Daniele Vigo  
The defence will take place in APR 2017

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

2002-07      [Liceo Scientifico “A. Volta”, Caltanissetta, Italy](#)  
Scientific Diploma  
Grade: 100/100

## Publications Journal Papers (published or submitted)

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- 2017
1. Alberto Santini, Stefan Ropke, and Christian E.M. Plum. A branch-and-price approach to the Feeder Network Design Problem. *European Journal of Operational Research (under revision)*, pages 1–16, 2017
  2. Enrico Malaguti, Silvano Martello, and Alberto Santini. The Travelling Salesman Problem with pickups, deliveries, and draft limits. *Omega (to appear)*, pages 1–17, 2017. doi:10.1016/j.omega.2017.01.005
  3. Andrea Bettinelli, Alberto Santini, and Daniele Vigo. A real-time conflict solution algorithm for the Train Rescheduling Problem. *Transportation Research, Part B (under revision)*, pages 1–28, 2017
  4. Fabio Furini, Enrico Malaguti, and Alberto Santini. Exact and heuristic algorithms for the Partition Colouring Problem. *Computers & Operations Research (under revision)*, pages 1–17, 2017
  5. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. Measuring the impact of acceptance criteria on the Adaptive Large Neighbourhood Search metaheuristic. *Journal of Heuristics (under revision)*, pages 1–25, 2017
- 2015
6. Alberto Santini, Henrik Alsing Friberg, and Stefan Ropke. A note on a model for quay crane scheduling with non-crossing constraints. *Engineering Optimization*, 47(6):860–865, 2015. doi:10.1080/0305215X.2014.958731

## Publications Journal Papers (in preparation)

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- 2017
7. Stefan Ropke and Alberto Santini. Parallel Adaptive Large Neighbourhood Search. *In preparation*, pages 1–16, 2017
  8. Enrico Bartolini, Armine Minasyan, Alberto Santini, and Michael Schneider. A branch-and-price algorithm for a rich Multi-Activity Multi-Skill Shift Scheduling Problem. *In preparation*, pages 1–25, 2017
  9. Andrew Goldberg, Mauricio Resende, and Alberto Santini. Algorithms for a rich Truckload Pickup and Delivery Problem. *In preparation*, pages 1–20, 2017
  10. Demetrio Laganà and Alberto Santini. Exact solution methods for the Constrained Shortest Path Tour Problem. *In preparation*, 2017
  11. Enrico Bartolini, Alberto Santini, and Michael Schneider. A survey on facility location problems for alternative fuel vehicles refuelling infrastructure. *In preparation*, 2017

## Conference Proceedings

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- 2016
12. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. Poster: A comparison of acceptance criteria for the ALNS metaheuristic. In *AIRO 2016 Conference*, 2016
  13. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. A comparison of acceptance criteria for the Adaptive Large Neighbourhood Search metaheuristic. In *EURO 2016 Conference*, 2016
- 2015
14. Enrico Malaguti, Silvano Martello, and Alberto Santini. A maritime version of the Travelling Salesman Problem. In *Odysseus 2015 Conference*, 2015
  15. Alberto Santini, Stefan Ropke, and Christian E.M. Plum. A rich maritime extension of the Vehicle Routing Problem. In *AIRO 2015 Conference*, 2015
- 2014
16. Enrico Malaguti, Silvano Martello, and Alberto Santini. The Travelling Salesman Problem with pickup, delivery and draught limits. In *AIRO 2014 Conference*, 2014

## Technical Reports

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- 2015
17. Valentina Cacchiani, Alberto Santini, and Daniele Vigo. A study on metaheuristic approaches to the energy-efficient Train Timetabling Problem. Technical Report OR-15-6, DEI, University of Bologna, 2015
- 2014
18. Valentina Cacchiani, Alberto Santini, and Daniele Vigo. A novel modelling approach to the Train Timetabling Problem. Technical Report OR-14-27, DEI, University of Bologna, 2014

## Academic experience Organisation

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- FEB 2017
- [Workshop Organiser](#)  
Organised, together with Lavinia Amorosi, the 1<sup>st</sup> AIRO Young Workshop, on the theme “Emerging Optimization Problems on Complex Networks”. Invited speakers: Justo Puerto and Maria Grazia Scutellà. Rome, 16-17 FEB 2017.
- 2016-2017
- [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 AIRO 2016 Conference.
- JUL 2016
- [Session Chair](#)  
“Methodological advancements in metaheuristics” at EURO 2016 Conference.

- 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 AIRO 2015 Conference.
- 2015 [Seminars Organiser](#)  
Organised a series of doctoral seminars within the Operational Research group at DEI, University of Bologna, involving local and visiting researchers.

## Academic experience Teaching

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- 2017 [Teacher](#)  
Course “Optimisation methods for Big Data Analytics” taught at RWTH Aachen (Summer Semester).
- 2016-17 [Teaching assistant](#)  
Course “Foundations of OR”, A-K cohort taught by Enrico Malaguti, L-Z cohort taught by Michele Monaci. M. Eng. in Management Engineering, University of Bologna.
- 2016-17 [Teaching assistant](#)  
2015-16 Course “Optimisation Algorithms M” taught by Paolo Toth. M.Eng. in Computer Engineering, University of Bologna.  
2014-15

## Academic experience Visiting Positions

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- 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

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- 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<sup>st</sup> out of 9 qualified participants (grade: 92/100). Funded: 40 915 Eur (three years).

## Invited talks

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- 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

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- APR-SEP 2017      [Master Thesis, M.Sc. in Business Administration and Computer Science](#)  
Co-supervisor, “A heuristic algorithm for the electric pickup and delivery problem”, Lutz Venhofen.
- SEP-DEC 2016      [Master Thesis, M.Eng. in Management Engineering](#)  
Co-supervisor, “Embedding robustness in train rescheduling algorithms”, Alessandro Morandi.
- FEB-APR 2016      [Project, M.Eng. in Computer Engineering](#)  
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](#)  
Co-supervisor, “Metaheuristic algorithms for energy optimisation in train timetabling and rescheduling”, Hang Xu.
- MAR-JUN 2015      [Project, M.Eng. in Computer Engineering](#)  
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](#)  
Co-supervisor, “Valutazione della Performance di un caso di Customer Contact Desk attraverso l’applicazione della metodologia Data Envelopment Analysis”, Martina Carli.

## Work experience

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- 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

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LANGUAGES      Italian: mothertongue  
English: fluent

French: fluent  
Danish: proficient  
Armenian: studying

VOLUNTEERING    Italian Red Cross  
Danish Red Cross  
International Rotaract Club of Copenhagen