

# 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

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 euristic 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

## Technical Reports

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- 2015
11. 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
12. 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

## Conference Talks

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- 2017
13. Fabio Furini, Enrico Malaguti, and Alberto Santini. Exact and heuristic algorithms for the partition colouring problem. In *ODS 2017 Conference*, 2017
- 2016
14. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. Poster: A comparison of acceptance criteria for the ALNS metaheuristic. In *AIRO 2016 Conference*, 2016
  15. 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
16. Enrico Malaguti, Silvano Martello, and Alberto Santini. A maritime version of the Travelling Salesman Problem. In *Odysseus 2015 Conference*, 2015
  17. Alberto Santini, Stefan Ropke, and Christian E.M. Plum. A rich maritime extension of the Vehicle Routing Problem. In *AIRO 2015 Conference*, 2015
- 2014
18. Enrico Malaguti, Silvano Martello, and Alberto Santini. The Travelling Salesman Problem with pickup, delivery and draught limits. In *AIRO 2014 Conference*, 2014

## Academic experience Organisation

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- SEP 2017
- [Session Chair](#)  
“AIRO Young” session at the ODS 2017 Conference.
- 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 the AIRO 2016 Conference.

JUL 2016	<a href="#">Session Chair</a> “Methodological advancements in metaheuristics” at the EURO 2016 Conference.
2016	<a href="#">EURO Young Researchers OR Webinars Organiser</a> Organised a series of OR webinars by and for young researchers from all over the world, sponsored by EURO.
SEP 2015	<a href="#">Session Chair</a> “Exact Methods for Routing Problems” at the AIRO 2015 Conference.
2015	<a href="#">Seminars Organiser</a> 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	<a href="#">Teacher</a> Course “Optimisation methods for Big Data Analytics” taught at RWTH Aachen (Summer Semester).
2016-17	<a href="#">Teaching assistant</a> 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	<a href="#">Teaching assistant</a>
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	<a href="#">Amazon Inc.</a> Visiting Research Scientist in Seattle, USA. Working with Mauricio Resende and Andrew Goldberg.
FEB 2016	<a href="#">Vrije Universiteit Amsterdam</a> Visiting PhD Student at the Department of Information, Logistics and Innovation. Working with Wout Dul-laert.
Nov 2015	<a href="#">University of Calabria</a> Visiting PhD Student at the Department of Mechanical, Energy and Management Engineering. Working with Demetrio Laganà.
MAR-MAY 2015	<a href="#">Danish Technical University (DTU)</a> Visiting PhD Student at the Department of Management Engineering. Working with Stefan Røpke.

## Grants

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2016	<a href="#">PRIN (Research Projects of Relevant National Interest) 2016</a> 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	<a href="#">Association of European Operational Research Societies (EURO)</a> Grant to organise the “EURO Young Researchers OR Webinars”. Funded: 1 000 Eur.
2015	<a href="#">Marco Polo scholarship</a> Grant to conduct research abroad. Funded: 1 878 Eur (three months).
2014-16	<a href="#">PhD grant by the University of Bologna</a> 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      [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

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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