Alberto Santini

Contacts Email: a.santini@unibo.it
Telephone: +39 388 37 77 801

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

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)

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. *Submitted to Computers & Operations Research*, 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. *Submitted to the Journal of Heuristics*, 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)

2017

7. Stefan Ropke and Alberto Santini. Parallel Adaptive Large Neighbourhood Search. *In preparation*, pages 1–16, 2017
8. Armine Minasyan and Alberto Santini. A nested branch-and-cut-and-price algorithm for the Multi-Activity Multi-Skill Shift Scheduling Problem. *In preparation*, pages 1–25, 2017
9. Andrew Goldberg, Mauricio Resende, and Alberto Santini. Applying metaheuristics to a rich Truckload Pickup and Delivery Problem. *In preparation*, pages 1–20, 2017
10. Daniel Fleischman and Alberto Santini. A Semidefinite Programming solver based on a subgradient algorithm for hyperbolic programmes. *In preparation*, 2017
11. Demetrio Laganà and Alberto Santini. Exact solution methods for the Constrained Shortest Path Tour Problem. *In preparation*, 2017
12. Alberto Santini, Thibaut Vidal, and Daniele Vigo. On the impact of decomposition strategies for solving large-scale Capacitated Vehicle Routing Problems. *In preparation*, 2017

Conference Proceedings

2016

13. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. Poster: A comparison of acceptance criteria for the ALNS metaheuristic. In *AIRO 2016 Conference*, 2016
14. Alberto Santini, Stefan Ropke, and Lars Magnus Hvattum. A comparison of acceptance criteria for the Adaptive Large Neighbourhood Search metaheuristic. In *EURO 2016 Confernce*, 2016

2015

15. Enrico Malaguti, Silvano Martello, and Alberto Santini. A maritime version of the Travelling Salesman Problem. In *Odysseus 2015 Conference*, 2015
16. Alberto Santini, Stefan Ropke, and Christian E.M. Plum. A rich maritime extension of the Vehicle Routing Problem. In *AIRO 2015 Conference*, 2015

2014

17. Enrico Malaguti, Silvano Martello, and Alberto Santini. The Travelling Salesman Problem with pickup, delivery and draught limits. In *AIRO 2014 Conference*, 2014

Technical Reports

2015

18. 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

19. 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

Feb 2017 — Workshop Organiser
Organising, together with Lavinia Amorosi (Rome "La Sapienza" University) the 1st AIRO Young Workshop, on the theme "Emerging Optimization Problems on Complex Networks". It will take place in Rome, 16-17 Feb 2017.

2016 — Founder and Coordinator
Founder and coordinator of AIRO Young, the youth chapter of the Italian Operational Research Association (AIRO).

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

Academic experience Teaching

2017 — Teacher
Course "Optimisation methods for Big Data Analytics" taught at RWTH Aachen (Summer Semester).

2017 — Teacher
Course "Computational Logistics" taught at RWTH Aachen (Winter Semester) together with Enrico Bartolini.

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
2015–16
2014–15 — Teaching assistant
Course "Optimisation Algorithms M" taught by Paolo Toth. M.Eng. in Computer Engineering, University of Bologna.

Academic experience Visiting Positions

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 Dullaert.

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

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 1st 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

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

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: fluent Danish: proficient Armenian: studying
Volunteering	Italian Red Cross Danish Red Cross International Rotaract Club of Copenhagen