

# C.V. of Jesper Larsen

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## Educational Background

- (1995) MSc in Computer Science, University of Copenhagen
- (1999) PhD in Operations Research (OR), Technical University of Denmark

## Main Research Areas

Operations Research, Integer Programming, Public Transport Planning, Robust Planning, Applications of optimization in Health Care.

*h-index: Web of Science: 13, SCOPUS: 15. Google Scholar: 23. Citations: Web of Science 808 , Google Scholar: 3239.*

## Positions held

- **June 1999 – December 2002:** Assistant Research Professor at DTU.
- **From January 2003 to November 2012:** Associate Professor in Operations Research at DTU.
- **From November 2012:** Professor in Operations Research at DTU.
- **From June 2014:** Head of the Management Science division at the DME, DTU.
- **From August 2016:** Head of Education, DME

## Professional Activities

- **From September 2009 to August 2016:** Head of studies, Engineering Management/Industrial Engineering and Management.
- **From August 2012 to December 2014:** Member of the central education committee (CUU), DTU.
- **From January 2010 to June 2016:** Member of the scientific advisory board for Hermes Intelligent Traffic (<http://www.hermestraffic.com/>).
- **From July 2003 to June 2012:** Member of the advisory board for the MSc in Transport and Logistics, DTU.
- **From August 2014:** Member of the advisory board for the BSc in Strategic Analysis and systems design, Department of Engineering Management, DTU.

- **Editorships:** Since 2006 Country editor for International Abstracts of Operations Research. From January 2010 to July 2016 Associate Editor of Journal of Applied Operations Research. Since January 2014 Associate Editor of OR Spectrum (Top-15 journal within Operations Research based on impact factor).

Guest Editor on a special issue “Disruption Management” in “Computers & Operations Research” (May 2010) and a special issue on “Operations Research in Airport Operations” in “Computers & Operations Research” (2016).

- **Committee memberships:**

- Organising committee: the international workshops on vehicle routing “Route2000” and “Route2003”, the Nordic PhD-course “Nordic Summer Course on Applied Optimization and Modelling”, May 2002. 1st Nordic Optimization Symposium/Nordic MPS 2006, Copenhagen (chair), 8th ESICUP meeting, Copenhagen (2010), EUME workshop on metaheuristics, DTU (2012, chair).
- Programme committee: TRISTAN VII, Norway (2010), ICAOR 2010, Finland (2010), ICAOR 2011, Turkey (2011) and ICAOR 2012 (co-chair of the PC). Co-chair of LOGOPT 2012 (Optimization Methods in Logistics), ODYSSEUS 2012, ICORES 2012. ICAOR 2013, TRISTAN VIII, Chile (2013), ICAOR 2014, ODYSSEUS 2015, TRISTAN IX (2016), ODYSSEUS 2018, ATMOS2018.

- **International positions:** Since 2006 member of the executive committee in the European Association of Operations Research societies (EURO). Since 2005 Chair of the Nordic Section of the MPS.
- **External evaluation:** in the engineering and business educations and computer science in Denmark. Acted as opponent/evaluator at PhD defences in Australia, New Zealand, Sweden, Norway, the Netherlands and Denmark. In addition, I have worked as evaluator for the Austrian Science Fund (FWF), the Norwegian Research Council, Research Foundation Flanders (FWO), National Research Council of Chile (FONDECYT), National Council for Scientific Research, Romania (UEFISCDI), Hong Kong (Research Grants Council) and the EU SESAR Research project on assessing research project proposals within Operations Research and Computer Science. Nationally I have evaluated proposals for the Innovation Fund. Professor evaluation at KTH in Sweden. Evaluator on Portuguese Industrial Engineering & Management programs appointed by the Portuguese evaluation agency A3ES.

## Related Work

- **Visiting fellowships:** Research fellow at the Department of Engineering Science, The University of Auckland, New Zealand at two occasions (2005 and 2006), and once at the University of Linköping, Sweden in 2004. From November 2013 to April 2014 Visiting Professor at the Department of Engineering Science, The University of Auckland.
- **Reviewer:** Regularly reviewer for top-journals like Journal of Scheduling, Annals of Operations Research, Computers & Operations Research, Computers & Industrial Engineering, European Journal of Operational Research and Transportation Science.

- **Society memberships:** DORS (Danish Society of Operations Research) and AGIFORS (Airline Group of the International Federation of Operations Research Societies).
- **Supervision of PostDocs:** 2 PostDoc
- **Supervision of PhD students:** 15 PhD students of which 3 are currently enrolled.
- **Supervision of MSc students:** Supervised 85 MSc projects (109 students).
- **Awards by students:**
  - Supervisor on a thesis that won the award for best master thesis in engineering and computer science, The Computer Science section of the Danish Society of Engineers, IDA (2005).
  - One of my PhD students got the Tuborg Foundation Business Economics prize (a travel grant on 150,000 DKK) (2008). My two PhD students of the RobustRailS project came second in the junior competition of the EURO/RoadDef Rail challenge in 2014. In addition, one of the two PhD students won the best thesis of 2016 in the VeroLog working group and finalist in the EURO Doctoral Dissertation Award 2016.
  - Another of my students got the Danish Minister of Science and Technology’s Elite traveling grant for 250,000 DKK (2008). He also won the Young Practitioners award in 2008 at the ORSNZ conference.
  - Supervisor on a project on collaborative logistics that won the “GRØN DYST” award (2010) at the Technical University of Denmark, a DTU-based educational opportunity bringing into focus sustainability, climate technology, and the environment in all DTU’s study programmes.
- **Awards:** Won the Best Paper Award at the International Conference on Applied Operational Research (2008) for the paper “The Home Care Crew Scheduling Problem” by Dohn, Rasmussen, Justesen and me, and I was part of the Health care Group at my department that won the Alectia prize in 2009 (250,000 DKK) for the cross-disciplinary efforts in Health care management. Received the Hedorf Prize for excellence in transport research in 2017 (75,000 DKR).

## Publications

### Book Chapters

- [1] Brian Kallehauge, Jesper Larsen, Oli B. G. Madsen, and Marius M. Solomon. *Column Generation*, chapter Vehicle Routing Problem with Time Windows, pages 67–98. Springer, 2005.

### Accepted journal papers

- [2] Jesper Larsen and Ib Pedersen. Experiments with the auction algorithm for the shortest path problem. *Nordic Journal of Computing*, 6(4):403–421, 1999.
- [3] Michael Love, Kim R Sorensen, Jesper Larsen, and Jens Clausen. Disruption management for an airline – rescheduling of aircraft. *Applications of Evolutionary Computing*, 2279:315 – 324, 2002.

- [4] Jesper Larsen. Refinements of the column generation process for the vehicle routing problem with time windows. *Journal of Systems Science and Systems Engineering*, 13(3):326–341, 2004.
- [5] Michael Løve, Kim Riis Sørensen, Jesper Larsen, and Jens Clausen. Using heuristics to solve the dedicated aircraft recovery problem. *Central European Journal of Operations Research*, 13(2):189–207, 2005.
- [6] C. Fabritius, N. Madsen, J. Clausen, and J. Larsen. Finding the best visualization of an ontology. *Journal of the Operational Research Society*, 57(12):1482–1490, 2006.
- [7] B. Kallehauge, J. Larsen, and O. B. G. Madsen. Lagrangian duality applied to the vehicle routing problem with time windows. *Computers & Operations Research*, 33(5):1464–1487, 2006.
- [8] R. M. Jørgensen, J. Larsen, and K. B. Bergvinsdottir. Solving the dial-a-ride problem using genetic algorithms. *Journal of the Operational Research Society*, 58(10):1321–1331, 2007.
- [9] Niklas Kohl, Allan Larsen, Jesper Larsen, Alex Ross, and Sergey Tiourine. Airline disruption management – perspectives, experiences and outlook. *Journal of Air Transport Management*, 13(3):149–162, 2007.
- [10] T. Thomadsen and J. Larsen. A hub location problem with fully interconnected backbone and access networks. *Computers & Operations Research*, 34(8):2520–2531, aug 2007.
- [11] Min Wen, Jean-Francois Cordeau, Gilbert Laporte, Jesper Larsen, and Jens Clausen. Vehicle routing with cross-docking. *Journal of the Operational Research Society*, 60(12):1708–1718, 2009.
- [12] Jens Clausen, Allan Larsen, Jesper Larsen, and Natalia Rezanova. Disruption management in the airline industry – concepts, models and methods. *Computers & Operations Research*, 37(5):809–821, 2010.
- [13] Jens Clausen, Jesper Larsen, and Allan Larsen. Disruption management. *Computers & Operations Research*, 37(5), 2010.
- [14] Min Wen, Jean-Francois Cordeau, Gilbert Laporte, and Jesper Larsen. The dynamic multi-period vehicle routing problem. *Computers & Operations Research*, 37(9):1615–1623, 2010.
- [15] Katja Buhrkal, Sara Zuglian, Stefan Ropke, Jesper Larsen, and Richard Lusby. Models for the discrete berth allocation problem: A computational comparison. *Transportation Research, Part E*, 47:461 – 473, 2011.
- [16] Anders Dohn, Matias Sevel Rasmussen, and Jesper Larsen. The vehicle routing problem with time windows and temporal dependencies. *Networks*, 58(4):273–289, 2011.
- [17] Richard Lusby and Jesper Larsen. An improved exact method for the double TSP with multiple stacks. *Networks*, 58(4):273–289, 2011.
- [18] Richard Lusby, Jesper Larsen, Matthias Ehrgott, and David Ryan. An exact method for the double TSP with multiple stacks. *International Transactions in Operational Research*, 17(4):637–652, 2011.

- [19] Richard Lusby, Jesper Larsen, Matthias Ehrgott, and David Ryan. Railway track allocation: Models and methods. *OR Spectrum*, 33(4):843 – 883, 2011.
- [20] Richard Lusby, Jesper Larsen, Matthias Ehrgott, and David Ryan. Routing trains through railway junctions: A new set packing approach. *Transportation Science*, 45(2):228–245, 2011.
- [21] Min Wen, Emil Krapper, Jesper Larsen, and Thomas Stidsen. A multi-level variable neighborhood heuristic for a practical vehicle routing and driver scheduling problem. *Networks*, 58(4):273–289, 2011.
- [22] Richard Lusby, Anders Dohn, Troels Martin Range, and Jesper Larsen. An integrated approach to the ground crew rostering problem with work patterns. *Journal of the Operational Research Society*, 63:261–277, 2012.
- [23] Matias Sevel Rasmussen, Tor Fog Justesen, Anders Høeg Dohn, and Jesper Larsen. The home care crew scheduling problem: Preference-based visit clustering and temporal dependencies. *European Journal of Operational Research*, 219(3):598–610, 2012.
- [24] Richard Martin Lusby, Jesper Larsen, Matthias Ehrgott, and David M. Ryan. A set packing inspired method for real-time junction train routing. *Computers & Operations Research*, 40(3):713–724, 2013.
- [25] Kristian Hauge, Jesper Larsen, Richard Martin Lusby, and Emil Krapper. A hybrid column generation approach for an industrial waste collection routing problem. *Computers & Industrial Engineering*, 71(1):10–20, 2014.
- [26] Troels Martin Range, Richard Martin Lusby, and Jesper Larsen. A column generation approach for solving the patient admission scheduling problem. *European Journal of Operational Research*, 235, 2014.
- [27] Charlotte Vilhelmsen, Richard Lusby, and Jesper Larsen. Routing and scheduling in tramp shipping - integrating bunker optimization. *EURO Journal on Transportation and Logistics*, 3, 2014.
- [28] Jonas Ahmt, Jonas Skott Sigtenbjerggaard, Richard Martin Lusby, Jesper Larsen, and David Ryan. A new approach to the container positioning problem. *Flexible Services and Manufacturing Journal*, 28(4):617 – 643, 2015.
- [29] Troels Range, Richard Lusby, and Jesper Larsen. Solving the selective multi-category parallel-servicing problem. *Journal of Scheduling*, 18:165 – 184, 2015.
- [30] Per Thorlacius, Jesper Larsen, and Marco Laumanns. An integrated rolling stock planning model for the copenhagen suburban passenger railway. *Journal of Rail Transport Planning & Management*, 5(4):240–262, 2015.
- [31] Bo Valdemar Vaaben and Jesper Larsen. Mitigation of airspace congestion impact on airline networks. *Journal of Air Transport Management*, 47:54–65, 2015.
- [32] Rainer Kolisch, Jens O. Brunner, and Jesper Larsen. Airport operations management. *Computers and Operations Research*, 65:163–163, 2016.

- [33] Richard Martin Lusby, Troels Martin Range, and Jesper Larsen. A benders decomposition-based matheuristic for the cardinality constrained shift design problem. *European Journal of Operational Research*, 254:385–397, 2016.
- [34] Richard Martin Lusby, Martin Schwierz, Troels Martin Range, and Jesper Larsen. An adaptive large neighborhood search procedure applied to the dynamic patient admission scheduling problem. *Artificial Intelligence in Medicine*, 74:21–31, 2016.
- [35] Charlotte Vilhelmsen, Jesper Larsen, and Richard Martin Lusby. A heuristic and hybrid method for the tank allocation problem in maritime bulk shipping. *4 O R*, 14(4):417 – 444, 2016.
- [36] Richard Martin Lusby, Jesper Larsen, and Simon Henry Bull. A survey on robustness in railway planning. *European Journal of Operational Research*, 2017.
- [37] Jesper Larsen Richard Lusby, Jorgen Haahr and David Pisinger. A branch-and-price algorithm for railway rolling stock rescheduling. *Transportation Research, Part B*, 99:228 –250, 2017.
- [38] Charlotte Vilhelmsen, Richard Martin Lusby, and Jesper Larsen. Tramp ship routing and scheduling with voyage separation requirements. *Or Spectrum - Quantitative Approaches in Management*, 2017.