

JOACHIM J. ARTS  
Curriculum Vitae

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birthday: May 14, 1983

### EDUCATION

- 2009-2013: PhD Operations Management & Logistics, Eindhoven University of Technology
- 2007-2009: MSc Operations Management & Logistics, Cum Laude, Eindhoven University of Technology
- 2004-2008: BSc Industrial Engineering & Management Science, Cum Laude, Eindhoven University of Technology

### WORK EXPERIENCE

- September 2017 - Present: Associate professor of operations management and logistics at the University of Luxembourg, Luxembourg Center for Logistics and Supply Chain Management.
- December 2016 - August 2017: Tenured assistant professor of industrial engineering on associate professor track. I did research projects in cooperation with ASML, NedTrain, Philips Healthcare, CQM, CityGIS, Intemo, and CQM in the fields service supply chains. I teach graduate and undergraduate courses and supervise graduate and undergraduate students in their thesis work. I am co-promotor of the PhD projects of Denise Tönissen, Joni Driessen and Chiel van Oosterom. I am committee member for the new master program in manufacturing systems engineering.
- September 2013 - 2016: Tenure track assistant professor of industrial engineering at Eindhoven University of Technology.
- February 2015 - August 2015: Visiting Scholar, Sloan School of Management, Massachusetts Institute of Technology hosted by professor Retsef Levi.
- September 2009 - August 2013: PhD candidate at the School of Industrial Engineering, Eindhoven University of Technology (<http://www.tue.nl>). The research project was in collaboration with NedTrain (<http://www.nedtrain.nl>).
- September 2012 - December 2012: Visiting PhD student at the Operations Research Center (<http://www.mit.edu/~orc/>) of the Massachusetts Institute of Technology (<http://www.mit.edu>). I worked with Retsef Levi on asymptotic evaluation of base-stock policies for lost sales inventory systems.
- Januari 2008-2009: Calculator at Steiger Onderneming Nederland (SON) (<http://www.sonsteigerbouw.nl>). SON designs, rents and builds scaffolding to other contractors, mainly for large projects. My responsibility was to keep track the progress of projects in terms of cost and efficiency, and to calculate and specify tenders based on technical/architectural drawings.
- Spring 2006: Consulting Assignment at Harrie Leenders Haardkachels (<http://www.leenders.nl>). Harrie Leenders produces and exports hearth stoves. The assignment consisted of making forecasts of future export numbers and to obtain tenders from transport companies to plan international transport more efficiently.

- 2002-2004: Missionary service in the West-Indies mission of the church of Jesus Christ of latter-day saints (<http://www.lds.org>). During this period I lived in Barbados for seven months, St-Martin for one month and Surinam for 14 months. My labors consisted of proselyting and administering community service, such as education and improving living standards. For six months in Surinam I was responsible for coordinating the labors of a group of eight missionaries as a district leader, in the Wanica province and Paramaribo city. As such I organized service projects at local schools and homes for the elderly.

### LANGUAGE SKILLS

- Fluent in both written and spoken Dutch.
- Fluent in both written and spoken English.
- Basic knowledge of French.

### COMPUTER SKILLS

- Programming experience in the following languages: C, MATLAB,  $\chi$ , Julia.
- Familiar with Petrinet process formalisms in packages such as CPN-tools, WopeD and Woflan.
- Proficient in the use of L<sup>A</sup>T<sub>E</sub>X typesetting language.
- Familiar with object oriented modeling languages such as UML.

### PUBLICATIONS

- Arts, J.J., Van Houtum, G.J., Zwart, B. (2017) The asymptotic hazard rate of sums of discrete random variables. **Statistics and Probability Letters** **125**:171-173. <http://dx.doi.org/10.1016/j.spl.2017.02.006>
- Basten, R.J.I., Arts, J.J. (2017) Fleet readiness: stocking spare parts and high-tech assets. **IISE Transactions**, **49**(4):1-13. <http://www.tandfonline.com/doi/abs/10.1080/0740817X.2016.1243281>
- Arts, J., Basten, R.J.I., Van Houtum, G.J. (2016) Repairable stocking and expediting in a fluctuating demand environment: Optimal policy and heuristics, **Operations Research** **64**(6):1285-1301. <http://pubsonline.informs.org/doi/abs/10.1287/opre.2016.1498>
- Arts, J.J. (2017) A multi-item approach to repairable stocking and expediting in a fluctuating demand environment, **European Journal of Operational Research**, **256**(1):102-115. <http://www.sciencedirect.com/science/article/pii/S0377221716304234>
- Arts, J. (2014). Spare parts planning and control for maintenance operations. In J. Pombo (Ed.), Conference Paper : Proceedings of the Second International Conference on Railway Technology : Research, Development and Maintenance, 8-11 April 2014, Ajaccio, Corsica, France, (pp. 301-1/17). Stirlingshire, United Kingdom: Civil-Comp Press. <http://www.ctresources.info/ccp/paper.html?id=7951>
- Driessen, M.A., Arts, J., Van Houtum, G.J., Rustenburg, W.D., Huisman, B. (2014). Maintenance spare parts planning and control: A framework for control and agenda for future research, **Production Planning and Control**, **26**(5):407-426 <http://www.tandfonline.com/doi/abs/10.1080/09537287.2014.907586>
- Arts, J., Flapper, S.D. (2013). Aggregate overhaul and supply chain planning for rotatables, **Annals of Operations Research**, **224**(1):77-100, <http://link.springer.com/article/10.1007/s10479-013-1426-0>
- Arts, J., Kiesmüller, G.P. (2013). Analysis of a two-echelon inventory system with two supply modes, **European Journal of Operational Research**, **225**(2):263-272, <http://dx.doi.org/10.1016/j.ejor.2012.09.043>

- Arts, J., Vuuren, M. van, Kiesmüller, G.P. (2011). Efficient optimization on the dual-index policy using Markov chains. **IIE Transactions**, **43**(8):604-620, <http://www.tandfonline.com/doi/abs/10.1080/0740817X.2010.550908>

Working Papers:

- Arts, J.J., Basten, R.J.I. (2016) Single-item models with minimal repair for multi-item maintenance optimization, BETA Working paper 513.
- Arts, J.J., Levi, R., van Houtum, G.J., Zwart, B. (2016) Base-stock policies for lost-sales models: Aggregation and asymptotics, BETA Working paper 491.
- Tönissen, D.D., Arts, J.J., Z.J.M. Shen (2017) Maintenance Location Routing for Rolling Stock: Robust and Stochastic Programming Formulations, BETA Working Paper 521
- Driessen, J.P.C., Arts, J.J., Van Houtum, G.J. (2017) Optimal component reliability and commonality – A life cycle costs perspective. BETA Working Paper
- Driessen, J.P.C., Arts, J.J. Van Houtum, G.J. (2017) Fast replacement or low purchase prices? An optimal definition of line replaceable units. working paper

Professional publications:

- Arts, J.J. (2016). Spare parts stocking and expediting in a fluctuating demand environment. *ERCIM News*, 105, 30-31.

### PRESENTATIONS

- International Symposium of Locational Decisions (ISOLDE), University of Toronto, Canada, (2017)
- MSOM society annual conference, University of North Carolina, USA, (2017)
- Mathematics of Operational Research, Aston University, Birmingham, UK, (2017)
- 19-th ISIR Symposium on inventories, Budapest, Hungary, (2016)
- Eurandom stochastics seminar, Eindhoven University of Technology (2016)
- European conference of Operational Research, Glasgow, UK, (2015)
- INFORMS annual meeting, San Francisco, CA, USA, (2014)
- 18-th ISIR Symposium on inventories, Budapest, Hungary, (2014)
- International Conference on Railway Technology : Research, Development and Maintenance, Ajaccio, France (2014)
- Erasmus Research Institute of Management invited seminar, Rotterdam, The Netherlands, (2013)
- MSOM Society annual conference, Insead, Fontainebleau, France, (2013)
- EURO-INFORMS, 26-th European conference conference on operational research, Rome, Italy, (2013)
- 17-th ISIR Symposium on inventories, Budapest, Hungary, (2012)
- MSOM Society annual conference, Columbia University, New York City, USA, (2012)
- OPAC seminar, Eindhoven, the Netherlands (2012)
- BETA conference, Enschede, the Netherlands, (2011)
- VIII-th Conference on Stochastic Models of Manufacturing and Service Operations, Kuşadası, Turkey, (2011)

- Conference of the Dutch Society on the Mathematics of Operations Research (LNMB), Lunteren, the Netherlands, (2011)
- OPAC seminar, Eindhoven, the Netherlands, (2010)
- MSOM Society annual conference, Technion University, Haifa, Israel, (2010)
- OPAC seminar, Eindhoven, the Netherlands, (2009)
- ISIR summer-school, Katowice, Poland, (2009)

### **TEACHING**

- Supervision of thesis work of BSc and MSc students, 8 MSc students as supervisor, 21 MSc student as co-supervisor or committee member and ~18 BSc students.
- Responsible lecturer for “Advanced Maintenance and Service Logistics” (graduate level) in 2015/2016 and 2016/2017, student evaluation of 8.5/10 in 2015/2016.
- Lecturer for “Quantitative Modeling and Analysis of Business Processes” (undergraduate level) in 2015/2016, student evaluation 3.9/5.
- Lecturer for “Research methods” (graduate level) in 2015/2016, student evaluation of 7.3/10.
- Lecturer for “Maintenance and service logistics” (undergraduate level) in 2014/2015, student evaluation of 4.2/5 in 2014/2015.
- Responsible lecturer for “Service supply chains for capital goods” in 2014/2015 (graduate level), student evaluation of 4.71/5 in 2015/2015.
- Lecturer for “Modeling and analysis of manufacturing systems” (graduate level) in 2013/2014 and 2014/2015 with student evaluations of 4.3/5 in 2014/2015.
- Guest lecturer for “Supply Chain Operations Planning” (graduate level) in 2012/2013.
- Teaching assistant for courses on “Quality Management” (undergraduate level) and “Service Supply Chains for Capital Goods” (graduate level).
- Completed the University Teacher Qualification (Dutch: BKO) for didactical skills in academic education.

### **HONORS AND AWARDS**

- Education award 2016, best lecturer, Master Operations Management & Logistics, Eindhoven University of Technology
- EURO doctoral dissertation award 2015
- Education award 2014, best lecturer, Master Operations Management & Logistics, Eindhoven University of Technology
- De Breed-Kreiken - Prins Bernhard Cultuurfonds fellow, 2012
- Master Thesis award 2010 of the VVS-OR (Vereniging Voor Statistiek en Operationele Research), the Dutch society for statistics and operational research.
- Finalist for the 2009 Eindhoven University of Technology final project award on behalf of the School of Industrial Engineering.

## FUNDING

- VENI laureate 2016, Main applicant, Amount: 241443 EURO from NWO, Title: Learning from degradation data: When to shut down public services (This is an early career grant from the Netherlands Organisation for Scientific Research.)
- Vital Logistics 2015, Co-applicant, Amount: 419232 EURO from NWO, with co-funding from Philips and the Amsterdam fire brigade, Title: Emergency Service Logistics: Network Design and Dynamic Dispatching

## INDUSTRY COLLABORATIONS

- My PhD research was funded entirely by and carried out in collaboration with NedTrain
- Each year I supervise the Master thesis projects of 2-4 MSc students doing projects with companies such as NedTrain, ASML and Philips. I am also the supervisor of 2 PhD students, doing research in collaboration with NedTrain and ASML and two post-docs working with Philips, ASML and NedTrain.

## SERVICE AND REFEREEING

- Member of the editorial review board for Production and Operations Management
- Co-organizer of the Maintenance and Service Logistics stream of the 19-th ISIR symposium on inventories; see <http://isirsymposium.hu/callforpapers/>
- Co-organizer of the Young European Queueing Theorists workshop 2015 on stochastic service systems; see [http://www.eurandom.tue.nl/events/workshops/2014/YEQT\\_2014/YEQT\\_index.html](http://www.eurandom.tue.nl/events/workshops/2014/YEQT_2014/YEQT_index.html).
- Referee for Management Science, Operations Research, Manufacturing and Service Operations Management, Production and Operations Management, European Journal of Operational Research, Naval Research Logistics, IISE Transactions, Operations Research Letters, OR spectrum, International Journal of Production Economics, Optimization Letters, IMA Journal of Management Mathematics, Journal of the Operational Research Society, Journal of Scheduling, Computers and Industrial Engineering, Applied Mathematical Modeling.

## INTERESTS AND ADDITIONAL INFORMATION

My interests and hobbies include mountaineering, basketball, and traveling. I play piano and guitar.

- Married in 2005 to Heidi Dhondt, proud father of Liam (8 years old) and Thomas (5 years old), Christiaan (3 years old), and Lucas (1 years old).
- I was a student-representative in the Curriculum Board of the Industrial Engineering programs at the Eindhoven University of Technology.
- I served as a member of the PhD board of the BETA Research School for Operations Management and Logistics. <http://beta.ieis.tue.nl/>
- In my church I serve by teaching religion classes and organizing activities for youth ages 12-18.
- I enjoy playing jazz and rock music on the piano as well as mountaineering.