

# **Christian Larsen**

## **Professor**

MSc (Mathematical Economics), University of Aarhus, Denmark, 1987

PhD, University of Aarhus, Denmark, 1990

## **Academic work experience**

- PhD student, Department of Operations Research, University of Aarhus, Denmark, 1987-90
- Visiting Scholar, School of Industrial and Systems Engineering, Georgia Institute of Technology, USA, 1989-90
- Assistant Professor, Department of Management Science and Logistics, The Aarhus School of Business, Denmark, 1990-91
- Assistant Professor, Department of Management, University of Odense (now University of Southern Denmark), Denmark, 1991 - 95
- Associate Professor, Department of Management, University of Odense (now University of Southern Denmark), Denmark, 1995 - 2000
- Associate Professor, Department of Management Science and Logistics (now Department of Economics and Business), Aarhus School of Business, Denmark, 2000 -06
- Visiting Scholar, Department of Technology Management, Technical University Eindhoven, The Netherlands, 2006
- Professor, Department of Business Studies (now Department of Economics and Business), Aarhus School of Business, Denmark, 2006 -

## **Research interests**

- Operations Research
- Inventory Control
- Production Planning
- Stochastic Modelling

## **Practical experience**

- Analysis of dimensioning entrance facilities of a major international exhibition
- Analysis of selecting optimal inventory levels for a major Danish production company

## PhD Dissertation

- Larsen, C., Aspects of global non-convex optimization. PhD Dissertation, University of Aarhus, Denmark, September 1990 (supervisor Jørgen Tind)

## Publications

- Larsen, C., To the editor. *Naval Research Logistics*, Vol 58, No 4, p. 410, 2011.
- Du, B. and Larsen, C., Base stock policies with degraded service to larger orders. *International Journal of Production Economics*, Vol 133, pp 326-333, 2011.
- Larsen, C., Derivation of confidence intervals of service measures in a base-stock inventory control system with low-frequent demand. *International Journal of Production Economics*, Vol 131, pp 69-75, 2011.
- Larsen, C., Thorstenson, A., Forbedret SCM gennem koordineret lagerstyring. *Børsens Ledeshåndbog i Supply Chain Management (Afsnit 3.3)*, 2009 (In Danish).
- Larsen, C., The  $Q(s,S)$  policy for the joint replenishment problem extended to the case of correlation among item-demands. *International Journal of Production Economics*, Vol 118, pp 292-297, 2009.
- Larsen, C., Thorstenson, A., A comparison between the order and the volume fill rate for a base-stock inventory control system under a compound renewal demand process. *Journal of the Operational Research Society*, Vol 59, pp 798-804, 2008.
- Larsen, C., Seiding, C.H., Teller, C., Thorstenson, A., An inventory control project in a major Danish company using compound renewal demand models. *IMA Journal of Management Mathematics*, Vol 19, No 2, pp 145-162, 2008.
- Larsen, C. and Kiesmüller, G.P., Developing a closed-form cost expression for an  $(R,s,nQ)$  policy where the demand process is compound generalized Erlang. *Operations Research Letters*, Vol 35, No 5, pp 567-572, 2007
- Larsen, C., Thorstenson, A. and Teller, C., Lagerstyring for Danfoss A/S, Orbit, April, pp 18-22, 2006 (In Danish).
- Larsen, C., Comparing two socially optimal work allocation rules when having a profit optimizing subcontractor with ample capacity. *Mathematical Methods of Operations Research*, Vol 61, pp 109-121, 2005.
- Larsen, C., The economic production lot size model extended to include more than one production rate. *International Transactions in Operational Research*, Vol 12, pp 339-353, 2005.
- Nielsen, C. and Larsen, C., An analytical study of the  $Q(s,S)$  policy applied to the joint replenishment problem. *European Journal of Operational Research*, Vol 163, No 3, pp 721-732, 2005
- Beltov, B., Jørgensen, S., Larsen, C., Olesen, O.B. and Petersen, N.C., *Introduktion til produktion, logistik og optimering*. Odense Universitetsforlag, 2001 (In Danish)

- Johansen, S.G. and Larsen, C., Computation of a near-optimal service policy for a single-server queue with homogenous jobs. *European Journal of Operational Research*, Vol 134, pp 648-663, 2001.
- Larsen, C., Investigating the sensitivity and the impact of information on pricing decisions in an M/M/1 queuing model. *International Journal of Production Economics*, Vol 56-57, pp 365-377, 1998.
- Larsen, C., Using a variable production rate as a response mechanism in the economic production lot size model. *Journal of the Operational Research Society*, Vol 48, pp 97-99, 1997.
- Al-Khayyal, F.A., Larsen, C. and Van Voorhis, T., A relaxation method for nonconvex quadratically constrained quadratic programs. *Journal of Global Optimization*, Vol 6, pp 215-230, 1995.
- Larsen, C., Tilpasning til ny teknologi: nogle normative bidrag. *Ledelse og Erhvervsøkonomi*, No 4, pp 195-202, 1992. (In Danish)
- Larsen, C. and Tind, J., Lagrangean duality for facial programs with applications to integer and complementarity problems. *Operations Research Letters*, Vol 11, pp 293-302, 1992.
- Al-Khayyal, F.A. and Larsen, C., Global optimization of a quadratic function subject to a bounded mixed integer constraint set. *Annals of Operations Research*, Vol 25, pp 169-180, 1990.

### **Selected Working Papers**

- Du, B. and Larsen, C., Investigating reservation policies of advance orders in the presence of heterogeneous demand. Working Paper, Department of Business Studies/CORAL, Aarhus School of Business, 2010.
- Larsen, C., Comments to Özkaya et al. (2006). Working Paper L-2008-04, Department of Business Studies, Aarhus School of Business.
- Larsen, C., Note: comments on the paper by Rosling (2002). Working Paper L-2007-03, Department of Business Studies, Aarhus School of Business.
- Larsen, C., Computation of order and volume fill rates for a base stock inventory control system with heterogeneous demand to investigate which customer class gets the best service. Working Paper L-2006-03, Department of Business Studies, Aarhus School of Business.
- Koch, C. and Larsen, C., Sensitivity and statistical analysis in the repeated prisoners' dilemma game. Publication No 2, Department of Management, University of Odense, Denmark, 1995.
- Larsen, C., Modelling aspects and solution procedures for an activity model having economies and diseconomies of scale. AOA Publication 90/9, Department of Operations Research, University of Aarhus, 1990.

### **Paper Presentations**

- 21'st International Conference on Production Research, Stuttgart, Germany, August 2, 2011.

- 16'th International Symposium on Inventories, Budapest, Hungary, August 24, 2010
- OR Day, Aarhus School of Business, Denmark, November 4, 2009
- 15'th International Symposium on Inventories, Budapest, Hungary, August 22, 2008
- 15'th International Working Seminar on Production Economics, Innsbruck, Austria, March 7, 2008
- 22'th EURO Conference, Prague, Czech Republic, July 9, 2007
- Workshop at the occasion of the retirement of Jørgen Tind, Copenhagen, Denmark, June 21, 2007
- 14'th International Symposium on Inventories, Budapest, Hungary, August 25, 2006
- ERASMUS University, Rotterdam, The Netherlands, April 21, 2006
- Technische Universiteit Eindhoven, The Netherlands, February 16, 2006
- Seminar at Center for Logistics and Goods Transport (CLG), May 23, 2005
- Manufacturing & Service Operations Management Conference, Eindhoven, The Netherlands, July 1, 2004
- Seminar at Center for Logistics and Goods Transport (CLG), March 4, 2004
- 5'th EURO/INFORMS Joint International Meeting, Istanbul, Turkey, July 10, 2003
- 16'th International IFORS Conference, Edinburgh, United Kingdom, July 8, 2002
- 18'th EURO Conference, Rotterdam, The Netherlands, July 10, 2001
- 17'th EURO Conference, Budapest, Hungary, July 19, 2000
- Network Meeting for Production Engineers at University of Southern Denmark, March, 2000
- 6'th Meeting of The Nordic section of The Mathematical Programming Society, Vesterås, Sweden, September 25, 1999
- NOAS Conference Copenhagen, Denmark, August, 1997
- 4'th EURO/INFORMS Joint International Meeting, Barcelona, Spain, July, 1997
- 4'th Meeting of The Nordic Section of The Mathematical Programming Society, Aarhus, Denmark, August 17, 1996
- 9'th International Working Seminar on Production Economics, Innsbruck, Austria, February, 1996
- Symposium on Production Planning and Control, Molde, Norway, May 18, 1995
- The German Operations Research Societies Joint Meeting, Berlin, September, 1994.
- 14'th International Symposium on Mathematical Programming, Amsterdam, The Netherlands, August 1991
- Symposium on Mathematical Programming, Erice, Italy, June, 1991
- PhD Research Seminar, Sandbjerg, Denmark, September, 1990
- 1'th Meeting of The Nordic Section of The Mathematical Programming Society, Copenhagen, Denmark, August, 1990
- 10'th EURO Conference, Belgrade, Yugoslavia, June 1989
- Research Seminar, Bayreuth, Germany, May, 1989
- University of Trier, Germany, March 1989.

- PhD Research Seminar, Aarhus, Denmark, October, 1988
- Linköping Technical University, Sweden, June 1988.
- Research Seminar, Sandbjerg, Denmark, April, 1988

### **Teaching activities**

1984-87: Teaching assistant in Convex Analysis, Mathematical Economics Undergraduate Program at University of Aarhus

Spring 1988: Teaching assistant in Linear Programming, Mathematical Economics Undergraduate Program at University of Aarhus.

Fall 1988: Lecturer in Integer Programming, Mathematical Economics Master Program at University of Aarhus.

Fall 1990: Lecturer in Optimization models I, Business Administration Master of Science Program at Aarhus School of Business.

Spring 1991: Lecturer in Optimization models II, Business Administration Master of Science Program at Aarhus School of Business.

Fall 1991: Lecturer in Decision Analysis, Master of Science Program in Organization and Planning Methods at Odense University.

Spring 1991-98: Lecturer in Production Planning II, Master of Science Program in Organization (until 1996) and Planning Methods at Odense University.

Fall 1992-93: Lecturer in Simulation, Master of Science Program in Organization and Planning Methods at Odense University.

Fall 1994-2000: Lecturer in Production Planning I, Master of Science Program in Organization (until 1996) and Planning Methods at Odense University.

Spring 1997: Lecturer in Managerial Economics, Business Administration Undergraduate Program at Odense University.

Spring 1999-2000: Lecturer in Topics in Operations Research, Business Administration Undergraduate Program at Odense University.

Fall 2001-2004: Lecturer in Decision Analysis (in English), Master of Science Program in Logistics at Aarhus School of Business.

Spring 2002-04: Lecturer in Simulation, Master of Science Program in Logistics at Aarhus School of Business.

Fall 2004-07: Lecturer in Computer-based Methods of Analysis, Master of Science Program in Logistics and Accounting at Aarhus School of Business.

Fall 2006-07: Lecturer in Dynamic Programming with applications to real options (in English), Elective course at Master of Science Program (all specializations) at Aarhus School of Business.

Spring 2009-10: Lecturer in Supply Chain Management: Strategy and Design, Master of Science Program in Logistics at Aarhus School of Business.

Fall 2010: Co-lecturer in Logistics and Business Processes in SAP Elective course at Master of Science Program (all specializations) at Aarhus School of Business.

Spring 2011: Lecturer in Inventory Control, Master of Science Program in Logistics at Aarhus School of Business.

In addition been supervisor on case reports in Managerial Economics and bachelor thesis works at the undergraduate program in Business Administration both at Odense University and at Aarhus School of Business. Also been supervisor on master theses at the Master of Science Program in Organization and Planning Methods at Odense University and at the Master of Science Program in Logistics at Aarhus School of Business.

### **Other Scholarly activities**

PhD supervisor for Christina Brønmo (former Nielsen), Aarhus School of Business, 2002-2005 (Sponsored by the virtual Centre for Logistics and Goods Transport (CLG))

PHD supervisor for Bisheng Du, Aarhus School of Business, 2008-2011 (Sponsored by the Danish Social Research Council)

Chairman of PhD committee for Abhijit Bendre, Aarhus School of Business, Fall 2010

Opponent at Licentiate thesis for Christian Howard, University of Lund, Sweden, Fall 2010

Has served as referee for *International Journal of Production Economics*; *Computers & Industrial Engineering*; *European Journal of Operational Research*; *Quality Technology and Quantitative Management*; *International Transactions in Operational Research*; *Journal of Global Optimization*; *Journal of Optimization Theory and Applications*;

*Manufacturing & Service Operations Management; Revue d'Automatique, d'Informatique et de Recherche Operationelle; Operations Research; Transportation Research Part E; International Journal of Inventory Research.*

Inaugural lecture November 2, 2007