

# Curriculum Vitae

## Peter Vanberkel, PEng, PhD

### **Current address**

S.L. Louwesstraat 153, 7545EV  
Enschede, the Netherlands  
Tel: 011 31 61 123 5683  
peter.vanberkel@gmail.com

### **Permanent Canadian address**

Box 1334, Main Street  
Antigonish, NS, B2G 2L7

**Current position:** PhD Student, University of Twente, the Netherlands

**Career target:** I am seeking an academic career where I can teach engineering students and undertake relevant and high quality applied research that contributes positively to society. My research interests are in mathematical modeling, which I have to date applied predominantly to solving health care problems. I am also interested in other application areas, including modeling of biological systems.

### **PROFESSIONAL EXPERIENCE**

**PhD Student, University of Twente, the Netherlands**

**Sept. 2007 to May 2011**

**Research Staff, Netherlands Cancer Institute**

Completed applied research projects in partnership with the Netherlands Cancer Institute. Major portions of my research have had academic success (i.e. published in international journals) and have been applied within the hospital, leading to direct benefits for the organization. My research and teaching activities are summarized on pages 2/3 and are described in detail in the Academic Appendix.

**Industrial Engineer, IWK Health Centre, Halifax, Canada**

**June 2006 to Sept. 2007**

As the IWK's first industrial engineer, I was involved in defining and marketing the new role. This required forming strong working relationships with senior executives and front line staff. Typical projects included performing process reengineering, patient flow improvements and statistical data analyses.

**Lecturer, Dalhousie University, Halifax, Canada**

**Sept. 2006 to Jan. 2007**

Taught *Analysis and Design of Work*, a required course for students in the third year of their bachelor's of industrial engineering degree (28 students, 6 classroom hours per week).

**Mgmt. Engineer, Capital District Health Authority, Halifax, Canada**

**Apr. 2003 to June 2006**

Initially I was hired as a co-operative education student for a four month contract. After this successful placement I was hired to work part-time for the duration of my bachelor's degree. During my Master's degree I continued to work part-time and did an applied Master's thesis project on simulation and surgical access time (the results are published in the journal *Health Care Management Science*).

**Engineering Student, Michelin Tire Canada Ltd., Bridgewater, NS**

**Sept. 2002 to Jan. 2003**

I worked as a co-operative education student for a four month contract. I was responsible for productivity analysis, improving workplace techniques and developing an inventory management database for work-in-process rubber. The latter was presented at the 2003 Designing Productivity Conference (Halifax, Canada) by senior management.

**Junior Analyst, Canadian Tire Corporation, Brampton, ON**

**Jan. 2002 to Apr. 2003**

I worked as a co-operative education student for a four month contract. I provided decision support and business process analysis for the logistics and distribution departments. I also developed and implemented indicators to identify short term demand fluctuations in high volume products. This work was acknowledged by the Vice President of Distribution.

**SUMMARY OF ACADEMIC EXPERIENCE (See Academic Appendix for details)**

**Publications**

- Journal Articles (6), Journal Notes (2)
- Refereed Conference Proceedings (3)
- Book Contributions (3)
- Articles Under Review (4)
- Other (4)

*Highlights:*

- Health Care Management Science article is cited 18 times ([www.scopus.com](http://www.scopus.com))
- Technical Paper Competition Winner, Canadian Society of Industrial Engineers

**Conference presentations**

- Canadian Conferences (17)
- American Conferences (3)
- European Conferences (11)

*Highlights:*

- Invited Speaker - CLARA Day on Operations Research in Cancer Treatment, Paris, France
- 2<sup>nd</sup> Prize Poster Competition, Centre for Telematics and Information Technology

**Teaching experience**

- Taught *Analysis & Design of Work* (BEng Course), Dalhousie University
- Guest Lecturer, *Operations Management in Healthcare* (MSc Course), University of Twente
- Guest Lecturer, *Research Perspectives on Operational Process* (PhD Course), Beta Research School for Operations Management and Logistics
- Presented a Tutorial on Outpatient Scheduling, University of Toronto
- Teaching Assistant, Dalhousie University (2 years)
- Developed and presented a 10-hour course on scheduling, Capital District Health Authority

*Highlights:*

- Received positive formal teaching evaluations for *Analysis & Design of Work* course
- Arranged a class trip to Canada Post's Distribution Centre in Halifax

**Student supervision experience**

- Master of Industrial Engineering and Management Students (5)
- Bachelor of Applied Mathematics Students (2)
- Bachelor of Industrial Engineering Students (3)
- Masters of Health Sciences Students (5)

*Highlights:*

- Journal Article (under review) resulted from the work of 2 students
- Published conference proceeding resulted from the work of 1 student
- 2 students won the Association of Professional Engineers of Nova Scotia Design Prize
- 1 student won the Technical Paper Competition, Institute of Industrial Engineers

**Research grants**

- Fully funded PhD position, University of Twente
- MSc Student Research Award (\$35,648), Nova Scotia Health Research Foundation
- Research Visit Grant (€1,500), Centre for Telematics and Information Technology
- Research Visit Grant (\$3,000), UBC Centre for Health Care Management
- Travel Grant (\$400), Canadian Operations Research Society
- Travel Grant (€500), Beta Research School for Operations Management and Logistics

### **Awards**

- Nova Scotia Health Research Foundation, MSc Student Research Award Winner (2005)
- Association of Professional Engineers of Nova Scotia, Convocation Award Winner (2004)
- Sexton Scholar and Dean's List Student, Dalhousie University (2002-2004)
- Canadian Society of Industrial Engineers Technical Paper Competition Winner, (2004)
- Centre for Telematics and Information Technology, Poster Competition, 2<sup>nd</sup> Prize (2009)
- Canadian Operational Research Society Diploma Recipient (2003)
- Beta Research School for Operations Management and Logistics Diploma Recipient (2010)
- Dutch Network on the Mathematics of Operations Research Diploma Recipient (2010)
- Institute of Industrial Engineers Technical Paper Competition Winner (Supervisor), Canadian Conference (2007)
- Association of Professional Engineers of Nova Scotia Design Prize (Supervisor) (2007)
- Association of Professional Engineers of Nova Scotia Award (Runner up) (2001)

### **Academic service**

- Organizing Committee Chairman, 2011 International Perspectives on Health Care Logistics Symposium (Budget: €5,000), University of Twente
- Organization Committee Member, 2012 EURO Working Group on Operational Research Applied to Health Services Conference, University of Twente
- Organization Committee Member, 2005 Canadian Operational Research Society Conference, Halifax, Canada
- Referee for the Journal Health Care Management Science
- Referee for the Journal OR Spectrum
- Referee for the International Journal of Health Management and Information

### **Professional memberships**

- Dutch Network on the Mathematics of Operations Research
- Beta Research School for Operations Management and Logistics, the Netherlands
- Centre for Health Care Operations Improvement and Research, University of Twente
- Centre for Telematics and Information Technology Research Institute, University of Twente
- P.Eng. Member, Engineers Nova Scotia
- Canadian Operational Research Society

### **Education**

- PhD in Operations Research, University of Twente May 2011
- Master of Applied Science, Dalhousie University Oct. 2006
- Bachelor of Industrial Engineering (Co-op), Dalhousie University May 2004
- Diploma in Engineering, St. Francis Xavier University May 2001

### **OTHER**

- Ran the 2009 Amsterdam Marathon
- Member of The University of Twente's Student Ice Hockey Team
- Ran the *Around the Bay* 30km Road Race, Hamilton, Canada
- Competed at the Canadian Interuniversity Sport National Championships for Cross Country
- Possess dual Canadian and Netherlands citizenship

# Curriculum Vitae - Academic Appendix

## Peter Vanberkel, PEng, PhD

### **Current address**

S.L. Louwesstraat 153, 7545EV  
Enschede, the Netherlands  
Tel: 011 31 61 123 5683  
peter.vanberkel@gmail.com

### **Permanent Canadian address**

Box 1334, Main Street  
Antigonish, NS, B2G 2L7

### **EDUCATION DETAILS**

#### **PhD in Operations Research**

**May 2011**

University of Twente, Enschede, the Netherlands  
Faculty of Electrical Engineering, Mathematics and Computer Science  
Department of Applied Mathematics  
Promoters: Richard J. Boucherie, PhD, Johann L. Hurink, PhD  
Supervisors: Erwin W. Hans, PhD, Nelly Litvak, PhD

Dissertation: Vanberkel P.T., (2011) *Interacting hospital departments and uncertain patient flows: Theoretical models and applications*. University of Twente (ISBN 987-90-365-3179-5).  
URL: <http://www.tinyurl.com/ptvanberkel>

#### **Master of Applied Science**

**Oct. 2006**

Dalhousie University, Halifax, Nova Scotia, Canada  
Department of Industrial Engineering  
Supervisor: John T. Blake, P.Eng., PhD

Thesis: Vanberkel P.T., (2006) *The Impact of the Quantity and Use of Resources on Elective Wait Times: A Comprehensive Simulation Applied in General Surgery*. Master's Thesis, Department of Industrial Engineering, Dalhousie University

#### **Bachelor of Industrial Engineering, Dean's List, Sexton Scholar**

**May 2004**

Dalhousie University, Halifax, Nova Scotia, Canada  
Department of Industrial Engineering  
Co-operative Education Option

#### **Diploma in Engineering**

**May 2001**

St. Francis Xavier University, Antigonish, Nova Scotia, Canada  
Department of Engineering

## **LIST OF PUBLICATIONS**

### **Working Papers**

- Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., *Optimizing the Strategic Patient Mix* (under review: Computers & Operations Research Journal, ISI Impact Factor 2.116)
- Hulshof P.J.H., Vanberkel P.T., Boucherie R.J., Hans E.W., van Houdenhoven M., van Ommeren J.C.W., *An Analytical Comparison of the Patient-to-Doctor Policy and the Doctor-to-Patient Policy in the Outpatient Clinic* (under review: OR Spectrum, ISI Impact Factor 1.625)
- van Lent W.A.M., Vanberkel P.T., van Harten W.H., *A review on the relation between simulation and improvement* (under review: International Journal of Quality in Healthcare, ISI Impact Factor 1.881)
- Vanberkel P.T., Hans E.W., *Operating Theatre Planning and Scheduling* (under review: Handbook of Healthcare System Scheduling: Delivering Care When and Where It is Needed Randolph W. Hall, Editor)
- Vanberkel P.T., Puterman M.L., Litvak N. *Panel sizing in oncology*

### **Journal Articles**

- [1] Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., van Lent W.A.M., van Harten W.H., *Accounting for Inpatient Wards when developing Master Surgical Schedules*, Anesthesia & Analgesia, 112(6):1472-1479, 2011. ISI Impact Factor 3.083
- [2] Masselink I.H.J., van der Mijden T.L.C., Litvak N., Vanberkel P.T., *Preparation of chemotherapy drugs: planning policy for reduced waiting times*. OMEGA - The International Journal of Management Science., ISI Impact Factor 3.101 (*forthcoming*)
- [3] Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., van Lent W.A.M., van Harten W.H., *An exact approach for relating recovering surgical patient workload to the master surgical schedule*, Journal of the Operational Research Society, ISI Impact Factor 1.009 (*forthcoming*)
- [4] Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., Litvak N., *Efficiency evaluation for pooling resources in health care*, OR Spectrum, ISI Impact Factor 1.625 (*forthcoming*)
- [5] Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., Litvak N., (2010) *A Survey of Health Care Models that Encompass Multiple Departments*, International Journal of Health Management and Information, 1 (1) 37 - 69
- [6] Vanberkel P.T., Blake J.T., (2007) *A Comprehensive Simulation for Wait Time Reduction and Capacity Planning Applied in General Surgery*. Health Care Management Science, 10 (4) 373-385, Special Issue on Simulation in Health Care.

### **Journal Notes**

- [7] Hulshof P.J.H., van Essen T.J.T., Kortbeek N, Vanberkel P.T., van der Veen E., Zonderland M.E., Boucherie R.J., Hans E.W., Hurink J.L., Litvak N., Veltman B., *ORchestra: An Online Reference Database of OR/MS Literature in Health Care* Health Care Management Science (*forthcoming*)

- [8] Dunbar M., Blake J.T., Vanberkel P.T., Molloy L., Hennigar, A., (2008) *Development of a Wait List Computer Simulation Model For Elective Orthopaedic Surgery*. Journal of Bone Joint Surgery Br 2008 90-B: 111-a

#### Refereed Conference Proceedings

- [9] Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., Litvak N., van Lent W.A.M., van Harten W.H., (2009) *Reallocating Resources to Focused Factories: A Case Study in Chemotherapy*, International Perspectives on Operations Research and Health Care: Proceedings of the European Working Group on Operational Research Applied to Health Services. Edited by J.T. Blake and M.W. Carter. (ISBN 978-0-9866179-0-4) ORAHS Toronto, Canada
- [10] Blake J.T., Vanberkel P.T., Dunbar M., Malloy L., Hennigar A, Storey M., (2004) *Wait List Management at Capital District Health Authority*. In Proceedings of the 30th Meeting of the European Working Group on Operational Research Applied to Health Services. Edited by M. Lagergren. Stockholm, Sweden: ORAHS
- [11] Campbell M., Vanberkel P.T., (2007) *Just-in-time patient scheduling in an Eye Care Clinic*. In 37<sup>th</sup> Annual Conference Proceedings of the Atlantic Schools of Business. Edited by J. Blake. Wolfville, NS: Acadia University

#### Book Contributions

- [12] Vanberkel P.T., Hans E.W., (2009) *Holistic healthcare modeling. A viewpoint on managing the complete patient care chain*. Contribution to the book: Operational Research Applied to Health Services in Action (ISBN 978-83-7493-409-1), OWPW Publishing
- [13] Vanberkel P.T., (2009) *Population Density and Location of Future Information Societies*. Contribution to the book: Living the ICT Future (ISBN 978-90-365-2963-1)
- [14] Vanberkel P.T., Blake J.T., (2008) *Quantitative Modelling for Wait Time Reduction*, (ISBN 978-3-693-09370-4), VDM Verlag Publishing, Saarbrücken, Germany

#### Conference Proceedings / Technical Papers

- [15] Vanberkel P.T., Boucherie R.J., Hans E.W., Hurink J.L., Litvak N., (2009) *Designing for Economies of Scale vs. Economies of Focus in Hospital Departments*. In: Proceedings of Innovation in Design and Management of Healthcare Facilities and Healthy Environments Research Day, Rotterdam, the Netherlands
- [16] Vanberkel P.T. (2004) *Predicting the Results of Resource Changes: A Computer Simulation in a Health Care Environment*. Winning Paper, Devonyx Technical Paper Competition, Canadian Society of Industrial Engineers

#### Other

- [17] Vanberkel P.T., (2011) *Interacting Hospital Departments and Uncertain Patient Flows: Theoretical Models and Applications*. PhD Dissertation, University of Twente (ISBN 987-90-365-3179-5)
- [18] Vanberkel P.T., (2006) *The Impact of the Quantity and Use of Resources on Elective Wait Times: A Comprehensive Simulation Applied in General Surgery*. Master's Thesis, Department of Industrial Engineering, Dalhousie University

**LIST OF CONFERENCE PRESENTATIONS**

**2011**

Management Science Department Seminar, University of Waterloo, Ontario, Canada

**2010**

CLARA day on Operations Research in Cancer Treatment & Operation Management, Paris, France  
(Invited Speaker)

Beta Research School for Operations Management Conference, Eindhoven, the Netherlands

EURO Working Group on Operational Research Applied to Health Services (ORAHS) Annual  
Conference, Genova, Italy

Canadian Operations Research Society Annual Conference, Edmonton, Canada

Production and Operations Management Society Annual Conference, Vancouver, Canada

POMS College of Healthcare Operations Management Mini-conference, Vancouver, Canada (Poster  
Presentation)

Dutch Network on the Mathematics of Operations Research (LNMB) Conference, the Netherlands

**2009**

Twente Symposium on Industrial Engineering, University of Twente, the Netherlands

Centre for Telematics and Information Technology Symposium, University of Twente, the Netherlands  
(Poster Presentation)

EURO Working Group on Operational Research Applied to Health Services (ORAHS) Annual  
Conference, Leuven, Belgium

Perspectives on European Healthcare Design and Planning: Achieving Excellence in Diversity  
International Conference, Rotterdam, the Netherlands

Production and Operations Management Society Annual Conference, Orlando, Florida, USA

**2008**

Dutch working group Operations Research in Healthcare, Rotterdam, the Netherlands

PhD Student Workshop as part of the EURO Working Group on Operational Research Applied to  
Health Services (ORAHS) Annual Conference, University of Toronto, Canada

EURO Working Group on Operational Research Applied to Health Services (ORAHS) Annual  
Conference, University of Toronto, Canada

Canadian Operational Research Society, Annual Conference, Quebec City, Canada

Conference for founding a Dutch working group Operations Research in Healthcare, University of  
Twente, the Netherlands

**2007**

Annual IWK Health Centre Quality Symposium, Halifax, Canada

Annual IWK Health Centre Quality Symposium, Halifax, Canada (Poster Presentation)

**2006**

Institute for Health Care Improvement, Satellite Conference, Halifax, Canada (Invited Speaker)

Atlantic Schools of Business, Annual Conference, Mount Allison University, New Brunswick, Canada

Canadian Society of Industrial Engineers, Annual Conference, Halifax, Canada

Capital District Health Authority, Quality Week Summit, Halifax, Canada (Poster Presentation)

**2005**

EURO Working Group on Operational Research Applied to Health Services (ORAHS) Annual Conference, University of Southampton, United Kingdom

Institute for Health Care Improvement, Satellite Conference, Halifax, Canada

Canadian Operational Research Society, Annual Conference, Halifax, Canada

Capital District Health Authority, Quality Week Summit, Halifax, Canada

**2004**

Institute of Industrial Engineers, International Conference, Houston, Texas, USA

Institute of Industrial Engineers, Canadian Conference, Montreal, Canada