

Curriculum Vitae

Name: **Michal Kaut**
Born: March 25, 1976; Hradec Králové, Czech Republic
Nationality: Czech Republic
Title: Dr. ing. (PhD equiv.)
Position: Researcher, SINTEF Technology and Society, Trondheim, Norway

Education

Dr. ing. (PhD equiv.) in stochastic programming, 1999–2003
Department of Mathematical Sciences
Norwegian University of Science and Technology, Trondheim, Norway
Thesis title: Scenario tree generation in stochastic programming:
Cases from finance
Thesis supervisors: Stein W. Wallace, Kjetil Høyland, Harald Krogstad

Ing. (MSc equiv.) in mathematical modelling, 1994–1999
Faculty of Nuclear Science and Physical Engineering
Czech Technical University, Prague, Czech Republic
Thesis title: Testing of an efficiency of capital markets (in Czech)
Thesis supervisor: Miloslav Vošvrda

Full-time positions

2009– Researcher, SINTEF Technology and Society, Trondheim, Norway
2009–2011 Post-doc, IØT NTNU, Trondheim, Norway
2006–2009 Post-doc, Molde University College, Molde, Norway
2004–2005 Lecturer, The School of Mathematics at the University of Edinburgh
2003 Model developer, Gjensidige NOR Asset Management, Oslo, Norway
1999–2003 Stipendiat (PhD fellow), IØT NTNU, Trondheim, Norway

Part-time positions

2008–09 Scientific adviser, Ragnar Frisch Centre for Economic Research, Oslo

Teaching

2008–09 Decision making under uncertainty at Molde University College (BSc)
2007–10 Bayesian statistics at the University of Edinburgh (MSc)
2005 Simulation at the University of Edinburgh (4th year and MSc)
2004–05 Probability and statistics at the University of Edinburgh (2nd year and MSc)
1998–99 Probability and statistics at Charles University in Prague (teaching assistant)
1997–99 Mathematical analysis at CTU Prague (teaching assistant)

Languages

fluent: Czech (native), English, Norwegian

Software skills

Programming: working experience: C/C++, Visual Basic
basic knowledge: Pascal, Fortran
Optimization: AMPL, GLPK, COIN-OR
Other: \LaTeX , OpenOffice/MS Office, Octave/Matlab

Student supervision

- Biju Kumar Thapalia: PhD, Molde University College. *Stochastic Single-Commodity Network Design*, May 2010 – co-supervisor since 2008.
- Hajnalka Vaagen: PhD, Molde University College. *Assortment planning under uncertainty*, August 2009 – co-supervisor since 2007.
- several MSc projects at the University of Edinburgh.

Published and accepted papers

- *Single-commodity network design with random edge capacities* (with Biju K. Thapalia, Teodor Gabriel Crainic and Stein W. Wallace). In *European Journal of Operational Research (EJOR)*, accepted for publication.
- *Single-Commodity Stochastic Network Design with Multiple Sources and Sinks* (with Biju K. Thapalia, Teodor Gabriel Crainic and Stein W. Wallace). In *INFOR*, 49 (3), to appear, 2012.
- *Single source single-commodity stochastic network design* (with Biju K. Thapalia, Teodor Gabriel Crainic and Stein W. Wallace). In *Computational Management Science*, special issue on ‘Optimal Decision Making under Uncertainty’, 9 (1), pp. 139-160, 2012.
- *Modelling consumer directed substitution* (with Hajnalka Vaagen and Stein W. Wallace). In *International Journal of Production Economics*, special issue on ‘Robust Supply Chain Management’, 134 (2), pp. 388–397, 2011.
- *The value of numerical models in quick response assortment planning* (with Hajnalka Vaagen and Stein W. Wallace). In *Production Planning & Control*, 22 (3), pp. 221–236, 2011.
- *Using inventory to handle risks in the supply of oil to Nepal* (with Biju K. Thapalia and Stein W. Wallace). In *International Journal of Business Performance and Supply Chain Modelling*, 1 (1), pp. 41–60, 2009.
- *Shape-based Scenario Generation using Copulas* (with Stein W. Wallace). In *Computational Management Science*, 8 (1–2), pp. 181–199, 2011.
- *COIN-OR Tools for Stochastic Programming*. In Miloš Kopa, editor, *On Selected Software for Stochastic Programming*, MatfyzPress, Prague, 2008.
- *Stochastic Optimization Models for a Single-Sink Transportation Problem* (with F. Maggioni and L. Bertazzi). In *Computational Management Science*, special issue on ‘Computational Optimization under Uncertainty’, 6 (2), pp. 251–267, 2009.
- *Stability analysis of a portfolio management model based on the conditional value-at-risk measure* (with Stein W. Wallace, Hercules Vladimirov and Stavros Zenios). In *Quantitative Finance*, 7 (4), pp. 397–409, 2007.
- *Evaluation of scenario-generation methods for stochastic programming* (with Stein W. Wallace). In *Pacific Journal of Optimization*, 3 (2), pp. 257–271, 2007.

- *A Heuristic for Moment-matching Scenario Generation* (with Kjetil Høyland and Stein W. Wallace). In *Computational Optimization and Applications*, 24 (2–3), pp. 169–185, 2003.

Working papers

- *A copula-based heuristic for scenario generation*. In *Optimization Online*, preprint report 2011/09/3169.
- *A C++ Modelling Environment for Stochastic Programming* (with Alan King and Tim H. Hultberg). In *IBM Technical report RC24662*, October 2008.
- *Scenario generation: Property matching with distribution functions* (with Arnt-Gunnar Lium); April 2007.
- *Scenario Generation and Obtaining Sound Solutions* (with Arnt-Gunnar Lium); June 2006.
- *Non-recombining trees for pricing of multi-variate options* (with Stein W. Wallace); March 2003.

Invited lectures at seminars / conferences

- *An Open-Source C++ Modelling Environment for Stochastic Programming*, STOPTIMA 2008, Brno, Czechia, June 2008.
- *Scenarios for the Libemod Model*, The Environment, Technology and Uncertainty; Frisch Centre, Oslo, Norway, May 2008.
- *Scenario Generation using Copulas*, Ramona scenario generation workshop, NTNU Trondheim, Norway, April 2008.
- *Some notes on property-matching scenario-generation methods*, STOPTIMA 2007, Brno, Czechia, September 2007.
- *Scenario Generation for Stochastic Programming*, Stochastics in logistics and transportation, Håholmen, Norway, June 2006.

Lectures at seminars / conferences

- *Copula-based scenario-generation heuristic*, 4th Nordic Optimization Symposium, Aarhus, Denmark, October 2010.
- *Copula-based scenario-generation heuristic*, 12th International Conference on Stochastic Programming, Halifax, Canada, August 2010.
- *A Deterministic Heuristic for Stochastic Service Network Design Problems*, The 20th International Symposium of Mathematical Programming, Chicago, USA, August 2009.
- *Solution methods for a multi-item newsvendor problem with substitution*, 3rd Nordic Optimization Symposium, Stockholm, Sweden, March 2009.
- *Solution methods for a multi-item newsvendor problem with substitution*, CARIPLO Workshop on Numerical Linear and Nonlinear Stochastic Programming, Edinburgh, Scotland, September 2008.
- *An Open-Source C++ Modelling Environment for Stochastic Programming*, APMOD 2008, Bra-tišla-va, Slovakia, May 2008.
- *Continuous-space formulation of stochastic supply boat routing problem*, 2nd Nordic Optimization Symposium / 11th Meeting of the Nordic MPS, Oslo, Norway, October 2007.

- *Transformation-based Scenario Generation using Copulas*, SPXI (11th Conference on Stochastic Programming), Vienna, Austria, August 2007.
- *Shape-based Scenario Generation using Copulas*, EURO XXII, Prague, Czechia, July 2007.
- *Scenario generation: Property matching with distribution functions*, Stochastic Programming School 2007, Bergamo, Italy, April 2007.
- *Scenario Generation for Stochastic Programming: A Practical Introduction*, seminar on “Scenario generation – Integration with forecasting models”, NTNU Trondheim, Norway, November 2006.
- *Practical aspects of optimising CVaR*, EURO Working Group on Financial Modelling XXXII, London, United Kingdom, April 2003.
- *Verifying a scenario-based decision model*, Nordic MPS’02 (The Eight Meeting of the Nordic Section of the Mathematical Programming Society), Bergen, Norway, September 2002.
- *Pricing options on non-recombining trees*, Half-Day Meeting on Stochastics and Computation in Mathematical Finance, University of Strathclyde, Glasgow, Scotland, September 2002.
- *A Heuristic for Generating Scenario Trees for Stochastic Programs*, APMOD 2002 (Applied Mathematical Programming and Modelling), Varenna, Italy, June 2002.
- *Portfolio management for a life insurance company*, Nordic Summer Course on Applied Optimization and Modelling, Sandvik, Denmark, May 2002.
- *A Heuristic for Generating Scenario Trees for Stochastic Programming*, IFIP/IIASA/GAMM Workshop on Dynamic Stochastic Optimization, IIASA, Laxenburg, Austria, March 2002.
- *A Heuristic for Generating Scenario Trees for Multistage Decision Problems*, ELAVIO 2001, Viña del Mar, Chile, January 2001.
- *A Heuristic for Generating Scenario Trees for Multistage Decision Problems*, Euro Working Group on Financial Modelling, Trondheim, Norway, May 2000.

Research visits and seminars

- First Summer School on Copulas, Linz, Austria, September 2008.
- Stochastic Programming School 2007, Bergamo, Italy, April 2007.
- SIRIF/ESRC Postgraduate Training Activities: Derivatives and Computational Methods, University of Strathclyde, Glasgow, Scotland, September 2002.
- Nordic Summer Course on Applied Optimization and Modelling, Sandvik, Bornholm, Denmark, May 2002.
- HERMES European Center of Excellence on Computational Finance and Economics, University of Cyprus, Nicosia, Cyprus, September-December 2001.
- ELAVIO 2001 – VII. Latin-American OR Summer School, Viña del Mar, Chile, January 2001.
- TRACS (Training and Research on Advanced Computing Systems) visit at the Edinburgh Parallel Computing Centre (EPCC), Edinburgh, July & August 2000.