

CURRICULUM VITAE



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PERSONAL DATA

- Date and place of birth: June 4th, 1971, Liperi, Finland.
- Place of residence: Turku, Finland.
- Nationality: Finnish.
- Gender: Female.
- Marital status: Married (maiden name Haarala), no children.

EDUCATION

- Doctor of Philosophy (Scientific Computing), 2004. Department of Mathematical Information Technology, University of Jyväskylä, Finland.
- Licentiate of Philosophy (Scientific Computing), 2003. Department of Mathematical Information Technology, University of Jyväskylä, Finland.
- Master of Science (Organic Chemistry), 1998 Department of Chemistry, University of Jyväskylä, Finland.
- Student Matriculation, 1991. Liperi's senior high school, Liperi, Finland.

DOCTORAL THESIS

- “*Large-Scale Nonsmooth Optimization: Variable Metric Bundle Method with Limited Memory*”, (monograph), Department of Mathematical Information Technology, University of Jyväskylä, Jyväskylä, 2004.
- Supervisors: Prof. Marko M. Mäkelä (University of Turku) and Prof. Kaisa Miettinen (University of Jyväskylä).
- Reviewers: Prof. Manlio Gaudioso (Università della Calabria, Italy) and Prof. Ladislav Lukšan (Academy of Sciences of the Czech Republic).
- Opponent: Prof. Per Olov Lindberg (Linköping University, Sweden).
- Grade: *Approved with honours* (this grade is granted to top 5–10 percent of theses.)

KNOWLEDGE OF LANGUAGES

- Finnish: native speaker.
- English: fluently.
- Swedish: satisfactorily.

WORK EXPERIENCE

- 1.8.2007 – the present. Assistant, Department of Mathematics, University of Turku, Finland. Research area: Large-scale nonsmooth optimization and molecular modeling.
- 1.1.2007 – 31.7.2007. Assistant Professor/Senior Researcher in SCOMA project, Department of Mathematical Information Technology, University of Jyväskylä, Finland. Research area: Large-scale nonsmooth optimization and MLPs.

- 4.11.2005 – 3.11.2006. Postdoctoral fellow (grant), School of Computational and Applied Mathematics, University of the Witwatersrand, Johannesburg, South Africa. Research area: Large-scale nonsmooth optimization with various constraints.
- 1.6.2001 – 31.10.2005. Researcher/Research trainee, Department of Mathematical Information Technology, University of Jyväskylä, Finland. Research area: Large-scale nonsmooth optimization.
- 5.7.1999 – 31.5.2001. Part-time programmer/Research assistant, Department of Mathematical Information Technology, University of Jyväskylä, Finland. Different projects.
- 1.9.1998 – 30.4.1999. Researcher/Substitute research assistant, Department of Chemistry, Laboratory of Organic Chemistry, University of Jyväskylä, Finland. Research area: Synthesis of resorcinarenes.
- 25. – 28.9.1992, 29. – 30.10.1992, and 23.11. – 4.12.1992. Substitute Senior teacher at Liperi's senior high school, Liperi, Finland.

RESEARCH GRANTS

- Magnus Ehrnrooth Foundation (2008): 2500 € travel grant.
- University of the Witwatersrand (2005): R101 000 for 12 month postdoctoral fellowship in the School of Computational and Applied Mathematics.
- Emil Aaltonen Foundation (2004): 7 000 € for finishing the Doctoral Thesis.

RESEARCH VISITS

- Federal University of Rio de Janeiro (UFRJ) in the Mechanical Engineering Program — COPPE with Prof. José Herskovits as a host. Rio de Janeiro, Brazil, June 1 – 18, 2008 and August 1 – 15, 2009.
- University of the Witwatersrand, School of Computational and Applied Mathematics with Prof. Montaz M. Ali as a host. Johannesburg, South Africa, November 4, 2005 – November 3, 2006.

INVITED LECTURES

- Federal University of Rio de Janeiro (UFRJ), Brazil, August 7, 2009. Lecture: “Introduction to Nonsmooth Optimization”.
- University of Kuopio, Department of Physics, Finland, April 16, 2008. Lecture: “Suurten optimointitehtävien numeerinen ratkaiseminen ja epäsiileä optimointi” (Numerical methods for Large-Scale and Nonsmooth Optimization).
- The 22nd European Conference on Operational Research (EURO XXII), Prague, The Czech Republic, July 8 – 11, 2007. Presentation (in invited session organized by Prof. Claudia Sagastizábal): “Limited Memory Interior Point Bundle Method”.

PARTICIPATIONS TO INTERNATIONAL CONFERENCES AND WORKSHOPS

- The 24th IFIP TC 7 Conference on System Modelling and Optimization (IFIP 2009), Buenos Aires, Argentina, July 27 – 31, 2009. Presentation: “Comparing Nonsmooth Optimization Methods and Software”.
- International Conference on Engineering Optimization (EngOpt 2008), Rio de Janeiro, Brazil, June 1 – 5, 2008. Presentation: “Globally Convergent Limited Memory Bundle Method for Bound Constrained Large-Scale Nonsmooth Optimization”.
- The 22nd European Conference on Operational Research (EURO XXII), Prague, The Czech Republic, July 8 – 11, 2007. Presentation (in invited session organized by Prof. Claudia Sagastizábal): “Limited Memory Interior Point Bundle Method”.

- The 19th International Symposium on Mathematical Programming (ISMP 2006), UFRJ, Rio de Janeiro, Brazil, July 30 – August 4, 2006. Presentation: “Limited Memory Bundle Method for Bound Constrained Large-Scale Nonsmooth Optimization”.
- The third Mathematics in Industry Study Group in South Africa (MISGSA), the University of the Witwatersrand, Johannesburg, South Africa, January 23 – 27, 2006.
- The Eighth SIAM Conference on Optimization, Stockholm, Sweden, May 15 – 18, 2005.
- The 40th Workshop Large Scale Nonlinear Optimization, Erice, Sicily, Italy, June 22 – July 1, 2004. Presentation: “Large-Scale Nonsmooth Optimization: Limited Memory Bundle Method”.
- The 18th International Symposium on Mathematical Programming (ISMP 2003), Copenhagen, Denmark, August 18 – 22, 2003. Presentation: “Large-Scale Nonsmooth Optimization: New Limited Memory Bundle Method”.
- Finnish-Russian Doctoral Seminar on Multicriteria Decision Aid and Optimization, Helsinki, Finland, November 28 – 29, 2002. Presentation: “Bundle Methods for Large-Scale Optimization”.

PARTICIPATIONS TO OTHER WORKSHOPS

- Teaching Role Workshop, Centre for Learning, Teaching and Development (CLTD), University of the Witwatersrand, Johannesburg, South Africa, June 12 – 14, 2006.

SCIENTIFIC TASKS AS AN EXPERT AND POSITIONS OF TRUST

- Member of the board of the Finnish Society of Computational Sciences since April 16, 2008.
- A founder member and a deputy member of the board of the Finnish Society of Computational Sciences from June 13, 2007 to April 16, 2008.
- Member of the Computer Science Joint Entrance Examination workgroup at the University of Jyväskylä in spring 2007.
- Referee for SIAM Journal on Optimization (SIOPT), European Journal of Operational Research (EJOR), and Journal of Optimization Theory and Applications (JOTA).

RESEARCH INTERESTS

- Nonsmooth (not necessarily differentiable), large-scale, nonconvex, and constrained optimization.
- Optimization problems in molecular modeling.
- Algorithm design.