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CURRICULUM VITAE

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Personal data

Date of birth:

16.10.1967

Place of birth:

Konnevesi

Marital status:

divorced, one child

Academic education

Degree	Year	School
Doctor of Philosophy	1996	University of Jyväskylä
Licentiate of Philosophy	1992	University of Jyväskylä
Master of Science	1991	University of Jyväskylä

Topic of doctoral disseratation:

Fictitious domain methods with separable preconditioners, computer science and applied mathematics. (27 citations to Ph.D. thesis according to Google Scholar)

Academic positions

in University of Jyväskylä, Department of Mathematical Information Technology

1.2.2006–	professor in software engineering (current) (head of department 12.5.2008–)
1.8.2005–31.1.2006	senior assistant in scientific computing
1.8.2004–31.7.2005	professor (acting) in applied mathematics (vice head of department 1.8.2004–11.5.2008)
1.8.2000–31.7.2005	senior assistant in scientific computing (on leave 1.8.2000–31.12.2000 and 1.8.2004–31.7.2005)
1.1.1999–31.12.2000	postdoctoral researcher (Academy of Finland)
1.9.1998–31.7.2000	senior assistant in software engineering (on leave 1.1.1999–31.7.2000)

in University of Jyväskylä, Department of Mathematics

1.3.1998–31.8.1998	senior assistant in software engineering
1.1.1998–28.2.1998	assistant
1.8.1997–31.12.1997	researcher
16.10.1996–28.2.1997	research assistant
1.1.1993–31.7.1994	research assistant
1.1.1991–31.12.1991	assistant

Research interests

- Mimetic numerical methods in acoustics, electromagnetics and computational fluid dynamics
- Parallel computing, algorithm design
- Machine Vision, Computer graphics
- Iterative solution of linear systems and preconditioning

Postgraduate students, supervised academic theses (9 PhD, 2 PhLic, 29 MSc)

- “On GPU-Accelerated Fast Direct Solvers and Their Applications in Image Denoising”, doctoral thesis, Mirko Myllykoski, 2015, grade *excellent*.
- “On a numerical solution of the Maxwell equations by discrete exterior calculus”, doctoral thesis, Jukka Rabinä, 2014.
- “Algorithms and Software for Biological Multiscale Image Analysis”, doctoral thesis, Lassi Paavolainen, 2013.
- “Memory-Saving Optimization Algorithms for Systems with Limited Hardware”, doctoral thesis, Giovanni Iacca, 2011.
- “Numerical Simultaion of Fluid-Structure Interaction Between Acoustic and Elastic Waves”, doctoral thesis, Sanna Mönkölä, 2011.
- “A Graph-Based Multigrid with Applications”, doctoral thesis, Anssi Pennanen, 2010.
- “Implementation Techniques for the Lattice-Boltzmann Method”, doctoral thesis, Keijo Mattila, 2010, grade *approved with honors*.
- “Global Optimization using Memetic Differential Evolution with Applications to Low Level Machine Vision”, doctoral thesis, Ville Tirronen, 2008.
- “Spectral Element Method and Controllability Approach for Time-harmonic Wave Propagation”, licentiate thesis, Sanna Mönkölä, 2008.
- “Efficient Solvers for Discretized Elliptic Vector-valued Problems”, doctoral thesis, Janne Martikainen, 2002.
- “Fictitious domain methods with separable preconditioners for vector valued partial differential equations”, licentiate thesis, Janne Martikainen, 2000.

Postgraduate students, current

- Matti Eskelinen (augmented reality)

Reviewed academic theses

- “Some domain decomposition methods to solve the continuous casting problem”, doctoral thesis, Jali Pieskä (Univ. Oulu), summer 2004.

Project funding, grants, awards

- Electromagnetic Wave Scattering in a Complex Random Medium, Acad. Finland, 2012-2016, 377485 EUR.
- Hybrid methods for particulate flows, Acad. Finland, 2007-2008, 138400 EUR.
- Honorary best lecturer’s award in computer science, student organization Ynnä ry, University of Jyväskylä, 1998, 2008.
- Grant for international researcher training, Academy of Finland, 1996, 1997.
- Grant for international postgraduate studies, Chamber of Commerce of Central Finland, 1993.
- Rector’s stipend for postgraduate studies, University of Jyväskylä, 1992.
- Honorary stipend for creditable Master’s Thesis, Department of Mathematics, University of Jyväskylä, 1991.

Member of the organizing committee

- ECCOMAS 2004, University of Jyväskylä, Jyväskylä, Finland, 24.7.–28.7.2004, task: Scientific Coordinator. <http://www.mit.jyu.fi/eccomas2004>
- Waves 2003, University of Jyväskylä, Jyväskylä, Finland, 30.6.–4.7.2003.
- The 11th Jyväskylä Summer School, University of Jyväskylä, Jyväskylä, Finland, August 2001.
- Finite Element Methods, Three-dimensional Problems, University of Jyväskylä, Jyväskylä, Finland, 27.6.–1.7.2000.
- The Fifth French-Russian-Finnish Workshop on Experimentation, Mathematical Modeling and Computation in Engineering Sciences, University of Jyväskylä, Jyväskylä, Finland, 26.–28.6.2000.
- ENUMATH99, University of Jyväskylä, Jyväskylä, Finland, 26.–30.7.1999.

Duties as scientific expert

- SIAM J. Matrix Anal. Appl., referee.
- Computing, referee.
- Numerical Linear Algebra with Applications, referee.
- Reviewer of doctoral theses: Jali Pieskä, University of Oulu, summer 2004.

Long-term visits in research institutes

- INRIA, Rocquencourt, France, 8.7.–15.10.1996, 3.3–25.7.1997.
- CERFACS, Toulouse, France, 7.4.–31.5.1994.