Curriculum Vitae of Nuutti Hyvönen

Contact information

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Personal information

Born November 19, 1977 in Kuopio, Finland. Married to Merja Oja since January 2007.

Language skills

Finnish (mother tongue), English (excellent), Swedish (basic)

Education

Doctor of Science in Technology — June 2004
Department of Engineering Physics and Mathematics, Helsinki University of Technology.
Major: mathematics. Minor: information science.
Thesis: *Diffusive tomography methods: Special boundary conditions and characterization of inclusions* (pass with distinction; supervisor: Prof. Erkki Somersalo; opponent: Prof. Martin Hanke).

Master of Science in Technology — December 2000
Department of Engineering Physics and Mathematics, Helsinki University of Technology.
Major: mathematics. Minor: information science.
Thesis: Analysis of optical tomography with non-scattering regions.

Matriculation examination — June 1996
Otavan opiston aikuislukio, Mikkelin maalaiskunta.

Professional experience

Full Professor — 1.7.2017 onwards
Dept. of Mathematics and Systems Analysis — Aalto University
Head of Department September 2018 – December 2025.

Associate Professor (tenured) — 1.12.2012–30.6.2017
Dept. of Mathematics and Systems Analysis — Aalto University
Head of the Inverse Problems Research Group.

Academy Research Fellow — 1.8.2010–30.11.2012
Dept. of Mathematics and Systems Analysis — Aalto University
Head of the Inverse Problems Research Group.

Researcher — 1.1.2010–31.7.2010
Dept. of Mathematics and Systems Analysis — Aalto University
Head of the Inverse Problems Research Group.

Postdoctoral researcher — 1.1.2007–31.12.2009
Institute of Mathematics — Helsinki University of Technology
Academy of Finland, postdoctoral researcher's project: *Diffuse tomography — theory and algorithms*. Head of the Inverse Problems Research Group from January 2009 onwards.

Visiting scholar 1.1.2008–21.12.2008
Department of Mathematics University of Washington, USA
Host: Prof. John Sylvester.

Researcher 1.9.2005–31.12.2006
Institute of Mathematics Helsinki University of Technology
Postdoctoral research funded by the Finnish Funding Agency for Technology and Innovation and the Academy of Finland.

Researcher/assistant 1.1.2001–31.7.2004
Institute of Mathematics Helsinki University of Technology
Teaching and writing doctoral thesis.

Research/teaching assistant 1.6.1999–31.12.2000
Institute of Mathematics Helsinki University of Technology
Teaching and writing master's thesis.

Part-time teacher 1997–1998
Institute of Mathematics Helsinki University of Technology
Giving tutorials.

Funding ID

Flagship of Advanced Mathematics for Sensing, Imaging and Modelling, Academy of Finland, January 2024 – April 2028. Role: One of the five Principal Investigators at Aalto University. Funding: 1 275 000 EUR for Aalto University.

Electrical impedance tomography – a novel method for improved diagnostics of stroke, Academy of Finland, January 2024 – December 2025. Role: Principal Investigator of the Aalto University Team. Funding: 83 776 EUR.

New frontiers in Bayesian optimal design for applied inverse problems, Academy of Finland, September 2022 – August 2026. Role: Leader of the consortium and one of the two Principal Investigators. Funding: 449 587 EUR of the total funding of 889 894 EUR.

Electrical impedance tomography – a novel method for improved diagnostics of stroke, Jane and Aatos Erkko Foundation. January 2021 – December 2023. Role: Principal Investigator of the Aalto University team. Funding: Aalto's share is 242 871 EUR of the total funding 1 328 000 EUR.

Centre of Excellence of Inverse Modelling and Imaging, Academy of Finland, January 2018 – December 2025. Role: One of the Principal Investigators. Funding from the Academy of Finland: 750 290 EUR. Funding from Aalto University: 700 000 EUR shared with the other Aalto PI Antti Hannukainen.

Visiting Professor Funding, Aalto Science Institute (AScI), February 2019 – December 2019. Role: Host of Prof. Henrik Garde (Aalborg University). Funding: 43 440 EUR.

Uncertainty quantification in electrical impedance tomography, Academy of Finland, September 2013 – August 2017. Role: Principal Investigator. Funding: 457 423 EUR.

Starting grant of a tenured Associate Professor, Aalto University, January 2013 – December 2015. Funding: 150 000 EUR.

Fine-tuning of a realistic measurement model in electrical impedance tomography, Academy of Finland and Deutsche Forschungsgemeinschaft, January 2011 – December 2013. Role: Finnish Principal Investigator. German Principal Investigator: Prof. Andreas Rieder, Karlsruhe Institute of Technology. Funding of the Finnish team: 205 730 EUR.

Inverse problems with incomplete data, Academy of Finland, Academy Research Fellow, August 2010 – November 2012. Funding: 189 230 EUR. Note: the salary for the first 16 months out of the originally granted 60 months — the rest was declined due to a permanent professorship.

Inverse problems with incomplete data, Academy of Finland, research costs of Academy Research Fellow, August 2010 – July 2013. Funding: 216 789 EUR. Role: Principal Investigator.

Diffuse tomography: theory and algorithms, Academy of Finland, January 2007 – December 2009 (postdoctoral project). Role: Principal Investigator. Funding: 180 000 EUR.

Institutional responsibilities

Head of the Department of Mathematics and Systems Analysis, School of Science, Aalto University (September 2018 – December 2025).

Vice Head of the Department of Mathematics and Systems Analysis, School of Science, Aalto University (January 2017 – September 2018).

Head of the Master's Programme in Mathematics and Operations Research, School of Science, Aalto University (2014–2017).

Responsible Professor for the Major in Applied Mathematics, Master's Programme in Mathematics and Operations Research, School of Science, Aalto University (2014–2023).

Five times the Chair of a Departmental Tenure Track Recruitment Committee at the Department of Mathematics and Systems Analysis, School of Science, Aalto University (2014–2015, 2017–2018, 2018, 2020, 2022). Member of five other departmental tenure track recruitment committees at Aalto University.

Six times the Chair of a Departmental Tenure Review Committee at the Department of Mathematics and Systems Analysis, School of Science, Aalto University (2019, 2020, 2021, 2022, 2023, 2024). Member of five other departmental tenure or full professor review committees at Aalto University.

Three times the Chair of a Departmental Lecturer Track Recruitment Committee at the Department of Mathematics and Systems Analysis, School of Science, Aalto University (2018–2019, 2020–2021, 2022–2023). Member of one other departmental lecturer track recruitment committee at Aalto University.

Six times the Chair of a Departmental Committee related to progression on Aalto University's Lecturer Career System at the Department of Mathematics and Systems Analysis, School of Science, Aalto University (2022–2023, 2022–2023, 2023, 2024, 2025).

Three times the Chair of a Departmental Recruitment Committee regarding an adjunct professorship at the Department of Mathematics and Systems Analysis, School of Science, Aalto University (2019–2022, 2022–2023, 2023). Member of two other departmental recruitment committee regarding an adjunct professorship at Aalto University.

Member of the Management Team, School of Science, Aalto University (January 2015 – DEcember 2025).

Member of the Education Management Team, School of Science, Aalto University (January 2015 – December 2022).

Member of the Steering Group of the Department of Mathematics and Systems Analysis, School of Science, Aalto University (January 2014 onwards).

Member of the Degree Programme Committee of Engineering Physics and Mathematics/Engineering Physics, Mathematics and Operations Research/Mathematics and Operations Research, School of Science, Aalto University (January 2013 – January 2024). Deputy member (February 2024 onwards).

Member of the Degree Programme Committee of Bachelor's Programme in Science and Technology, School of Science, Aalto University (January 2013 – February 2016 & September 2018 – December 2019). Deputy member (January 2017 – September 2018). Debuty member and vice chair (January 2023 onwards).

Deputy member of the Academic Affairs Committee, Aalto University (January 2018 – December 2021).

Member of the Academic Committee for Science, School of Science, Aalto University (January 2022 – December 2025).

Deputy member of the Academic Committee for Science, School of Science, Aalto University (January 2014 – December 2021).

Scientific responsibilities

Vice Director of the Flagship of Advanced Mathematics for Sensing, Imaging and Modelling (January 2024 onwards).

Advisory Editor for Mathematical Methods in the Applied Sciences (August 2018 – February 2024).

Member of the board of the Finnish Centre of Excellence in Inverse Modelling and Imaging (January 2018 – December 2025).

Member of the board of the Finnish Centre of Excellence in Inverse Problems Research (January 2009 – December 2017).

Member of the board of the Finnish Inverse Problems Society (December 2011 – January 2022).

Member of the board of the Graduate School of Inverse Problems (January 2010 – December 2013).

Member of a full professor recruitment committee, DTU Compute, DTU Technical University of Denmark (2021).

Reviewer for the Swedish Foundation for Strategic Research, Austrian Science Fund, the Czech Science Foundation, Canadian Natural Sciences and Engineering Research Council (NSERC), German Research Foundation (DFG), and Dutch Research Council (NWO)

Responsible researcher at the Aalto University in the project *Inverse Problems and reliability of the measurements* (40370/08) funded by the Finnish Funding Agency for Technology and Innovation (January 2009 – December 2011).

Responsible researcher at the Helsinki University of Technology in the project *Inverse Problems and reliability of the measurements* (40233/07) funded by the Finnish Funding Agency for Technology and Innovation (the year 2009).

Evaluator of Teemu Saksala's docent application (University of Helsinki, 2024).

Evaluator of Teemu Saksala's docent application (University of Jyväskylä, 2024).

Evaluator of Joonas Ilmavirta's docent application (Tampere University, 2023).

Examiner of Marvin Knöller's PhD Thesis (Karlsruhe Institute of Technology, 2023).

Opponent at the public defence of Jaakko Kultima's doctoral thesis (University of Oulu, 2023).

Evaluator of Sarah Eberle's habilitation (Goethe University Frankfurt, 2021).

Examiner of Hugo Girardon's PhD Thesis (École Polytechnique, 2020).

Evaluator of Esa Vesalainen's docent application (University of Helsinki, 2020).

Opponent at the public defence of Matti Niskanen's doctoral thesis (University of Eastern Finland, 2020).

Opponent at the public defence of Zenith Purisha's doctoral thesis (University of Helsinki, 2018).

Pre-examiner of Andreas Hauptmann's PhD Thesis (University of Helsinki, 2017).

Examiner of Jem Teresa John's PhD Thesis (Indian Institute of Science, Bangalore, 2017).

Examiner of Dmitry Ponomarev's PhD Thesis (Nice Sophia Antipolis University, 2016).

Examiner of Henrik Garde's PhD Thesis (Technical University of Denmark, 2016).

Examiner of Marcel Ullrich's PhD Thesis (University of Stuttgart, 2015).

Pre-examiner of Meghdoot Mozumder's PhD Thesis (University of Eastern Finland, 2015).

Evaluator of Markus Harju's docent application (University of Oulu, 2014).

Pre-examiner of Paul Hadwin's PhD Thesis (University of Auckland, 2014).

Evaluator of Miren Zubeldia's docent application (University of Helsinki, 2014).

Opponent at the public defence of Anssi Lehikoinen's doctoral thesis (University of Eastern Finland, 2012).

Pre-examiner of Valter Pohjola's licentiate thesis (University of Helsinki, 2013).

Pre-examiner of Emilia Blåsten's licentiate thesis (University of Helsinki, 2010).

Evaluator of Hanna Pikkarainen's docent application (University of Helsinki, 2010).

Pre-examiner of Markus Harju's licentiate thesis (University of Oulu, 2005).

Reviewer for Inverse Problems, Inverse Problems and Imaging, SIAM Journal on Applied Mathematics, IEEE Transactions on Medical Imaging, SIAM Journal on Mathematical Analysis, Numerische Mathematik, IMA Journal of Numerical Analysis, Journal of Scientific Computing, Inverse Problems in Science and Engineering, Measurement Science and Technology, SIAM/ASA Journal on Uncertainty Quantification, BIT Numerical Mathematics, Scientific Reports, Journal of Complexity, Complex Variables and Elliptic Equations, Journal of Mathematical Biology, Journal of Mathematical Imaging and Vision, Physiological Measurement, Journal of Integral Equations and Applications, Applied Numerical Mathematics, International Journal of Heat and Mass Transfer, Computational and Mathematical Methods in Medicine, Boundary Value Problems, Biomedical Optics Express, Artificial Intelligence in Medicine, Rakenteiden Mekaniikka.

Awards and grants

Recognition of Outstanding Refereeing Performance, Inverse Problems, 2009 & 2022.

Finnish Inverse Prize, Finnish Inverse Problems Society, 2003.

Supervision of doctoral theses (10+6)

Supervisor of the doctoral thesis of Lauri Harhanen (2013).

Supervisor of the doctoral thesis of Otto Seiskari (2013).

Supervisor of the doctoral thesis of Stratos Staboulis (2014).

Supervisor of the doctoral thesis of Matti Leinonen (Harri Hakula as an instructor; 2015).

Supervisor of the doctoral thesis of Helle Majander (2016).

Supervisor of the doctoral thesis of Lauri Mustonen (2017).

Supervisor of the doctoral thesis of Mikael Laaksonen (Harri Hakula as the instructor; 2018).

Supervisor of the doctoral thesis of Valentina Candiani (2021).

Supervisor of the doctoral thesis of Topi Kuutela (2023).

Supervisor of the doctoral thesis of Juha-Pekka Puska (2024).

Supervisor of the doctoral thesis of Pauliina Hirvi (an ongoing project).

Supervisor of the doctoral thesis of Anton Vavilov (an ongoing project).

Supervisor of the doctoral thesis of Markus Hirvensalo (an ongoing project).

Supervisor of the doctoral thesis of Altti Jääskeläinen (an ongoing project)

Supervisor of the doctoral thesis of Aada Hakula (an ongoing project)

Supervisor of the doctoral thesis of Vigdis Toresen (an ongoing project)

Supervision of master's theses (31+2)

Supervisor of the master's thesis of Simo Veijola (ongoing)

Supervisor of the master's thesis of Ahti Korhonen (ongoing)

Supervisor of the master's thesis of Touko Haapanen (Ilkka Hokkanen as the advisor, 2025)

Supervisor of the master's thesis of Mikko Salervo (2025)

Supervisor of the master's thesis of Marko Lahtinen (Hannu Siikonen as the advisor, 2024)

Supervisor of the master's thesis of Mikko Seesto (Éric Lendormy as the advisor, 2024)

Supervisor of the master's thesis of Aada Hakula (Pauliina Hirvi as the advisor, 2024)

Supervisor of the master's thesis of Anna Kosklin (Riku Linna as the advisor, 2024)

Supervisor of the master's thesis of Yunseon Lee (2023)

Supervisor of the master's thesis of Altti Jääskeläinen (2023)

Supervisor of the master's thesis of Antti Korkealaakso (Anssi Laukkanen as the advisor, 2023)

Supervisor of the master's thesis of Heikki Myllykoski (Seppo Pulkkinen & Terhi Mäkinen as advisor, 2023)

Supervisor of the master's thesis of Riina Hakkarainen (Jukka Keisala as the advisor, 2023)

Supervisor of the master's thesis of Eetu Haavisto (Kalle Kotilahti as the advisor, 2023)

Supervisor of the master's thesis of Jarno Maaninen (2023)

Supervisor of the master's thesis of Olli Pasanen (Markku Antikainen as the advisor, 2022)

Supervisor of the master's thesis of Pekka Huhtala (2021)

Supervisor of the master's thesis of Onni Pohjavirta (2021)

Supervisor of the master's thesis of Tero Hyytiäinen (Arturs Meijers & Roni Hytönen as advisors 2021)

Supervisor of the master's thesis of Juha-Samuli Hellén (Ruth Kaila as the advisor, 2020)

Supervisor of the master's thesis of Aapo Hanski (Yrjö Häme as the advisor; 2020)

Supervisor of the master's thesis of Leo Norilo (Antti Solonen and Stratos Staboulis as the advisors; 2019)

Supervisor of the master's thesis of Jyri Maanpää (Risto Kaijaluoto as the advisor; 2019)

Supervisor of the master's thesis of Mikko Karjalainen (Janne Tamminen as the advisor; 2018).

Supervisor of the master's thesis of Juha-Pekka Puska (Lauri Mustonen as the advisor; 2018).

Supervisor of the master's thesis of Leo Tuhkanen (Antti Rasila as the advisor; 2018).

Supervisor of the master's thesis of Jonatan Lehtonen (Harri Hakula as the advisor; 2015).

Supervisor of the master's thesis of Lauri Mustonen (Matti Leinonen as the advisor; 2014)

Instructor of the master's thesis of Jaakko Hujanen (2014).

Instructor of the master's thesis of Matti Leinonen (2011).

Instructor of the master's thesis of Otto Seiskari (2011). (The best master's thesis at the Aalto School of Science in 2011.)

Instructor of the master's thesis of Stratos Staboulis (2010).

Instructor of the master's thesis of Lauri Harhanen (Wacker Prize for the best mathematical master's thesis on an industrial project, European Consortium for Mathematics in Industry; 2008).

Postdocs and hosted research visits to Finland

Lisa Schätzle (one year as a postdoctoral researcher), 1.8.2025–31.7.2026.

Yuya Suzuki (three and a half years as a postdoctoral researcher), 1.2.2023–31.8.2026.

Joanna Bisch (three years as a postdoctoral researcher), 10.8.2022–30.6.2025.

Henrik Garde (two months as a visiting professor), 2.2.2024–22.3.2024.

Ruma Maity (one and a half years as a postdoctoral researcher), 13.6.2022–31.12.2023.

Henrik Garde (two and a half months as a visiting professor), 20.2.2022–30.4.2022.

Henrik Garde (eleven months as a visiting professor), 1.2.2019–31.12.2019.

Lucas Chesnel (eighteen months as a postdoctoral researcher), 1.3.2013–31.8.2014.

Jérémi Dardé (seventeen months as a postdoctoral researcher), 21.1.2011–30.6.2012.

Hari M. Varma (fifteen months as a postdoctoral researcher), 1.10.2010–31.12.2011.

Maia Lesosky (sixteen months as a postdoctoral researcher), 1.5.2009–31.8.2010.

Research visits abroad

University of Delaware, Department of Mathematical Sciences, Newark, Delaware, USA, 12.–18.5.2012. Host: Prof. Fioralba Cakoni.

Seoul National University, Department of Mathematical Sciences, Seoul, Republic of Korea, 30.3.–6.4.2009. Host: Prof. Hyeonbae Kang.

University of Washington, Department of Mathematics, Seattle, USA, the year 2008. Host: Prof. John Sylvester.

Rensselaer Polytechnic Institute, Department of Mathematical Sciences, Troy, USA, 29.9.–4.10.2008. Host: Prof. David Isaacson.

National Technical University of Athens, Department of Mathematics, Athens, Greece, 23.–30.9.2007. Host: Prof. Drossos Gintides.

Johannes Gutenberg-Universität, Institut für Mathematik, Mainz, Germany, 26.2.–5.4.2007, 21.–30.8.2007 and 16.–20.3.2009. Host: Prof. Martin Hanke.

University of Tsukuba, Institute of Mathematics, Japan, 31.1.–14.2.2007. Host: Prof. Hiroshi Isozaki.

Teaching experience (Helsinki University of Technology/Aalto University)

Lecturer: Computational (methods in) inverse problems (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025), Factorization and source support methods for electrical impedance tomography (2010), Finite difference methods (2005, 2013, 2014), Computational methods for differential equations (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2023), Nonlinear optimization (2022), Basic course in mathematics L4 (2013; with Juha Kinnunen), Partial Differential Equations (2013; with Ioannis Parissis), Lineaarialgebra (2018, 2024), Matriisilaskenta (3×2014, 3×2015, 1×2020).

Course assistant: Basic course in mathematics P2 (2004), Non-linear functional analysis (2003), Applied functional analysis (2003), Integral equations (2003), Inverse theory (2002), Basic course in mathematics L2 (2000), Basic course in mathematics L1 (1999).

Exercise assistant: Basic courses in mathematics L1/L2/L3/L4/C2/P2.

Organized conferences, workshops and summer schools

Finnish Mathematical Days 2024, January 4-5, 2024, Espoo, Finland. Chair of the Scientific Committee & Chair of the Local Organizing Committee.

Mathematics of Electrical Imaging: Modeling, Theory and Implementation, June 12-14, 2023, Toulouse, France. One of the four main organizers together with Jérémi Dardé, Jérémy Heleine, Lisl Weynans.

28th Nordic Congress of Mathematicians, August 18-21, 2022, Espoo, Finland. Chair of the Local Organizing Committee.

24th Inverse Days, December 11-13, 2018, Helsinki, Finland. One of the four main organizers together with Tatiana Bubba, Valentina Candiani and Antti Hannukainen.

Distinguished Lectures on Inverse problems, August 4-8, 2014, Helsinki, Finland. Member of the Scientific Committee.

Summer school on computational solution of inverse problems (with Samuli Siltanen, Matti Määttä and Terhi Hautala), Helsinki, Finland, June 2010.

Organized special sessions and minisymposia at conferences

Inverse problems (with Valentina Candiani and Tapio Helin). In *28th Nordic Congress of Mathematicians, Espoo, Finland, August 2022.*

Uncertainty quantification in imaging (with Tapio Helin and Tanja Tarvainen). In *ICIAM 2019, Valencia, Spain, July 2019.*

Inverse scattering and electrical impedance tomography (with Roland Griesmaier). In *SIAM Conference on Imaging Sciences, Bologna, Italy, June 2017.*

Inverse problems and uncertainty quantification (with Tapio Helin). In *SIAM Conference on Uncertainty Quantification, Lausanne, Switzerland, April 2016.*

Inverse problems in PDE and probability (with Tapio Helin). In *ICIAM 2015, Beijing, China, August 2015.*

Efficient reconstruction methods for electrical impedance tomography and inverse scattering (with Roland Griesmaier). In *Applied Inverse Problems, Helsinki, Finland, May 2015.*

Recent progress in inverse scattering and electrical impedance tomography (with Roland Griesmaier). In *Applied Inverse Problems, Daejeon, Korea, July 2013.*

Deterministic and probabilistic methods for inverse scattering and impedance tomography (with Roland Griesmaier). In *SIAM Conference on Imaging Science, Philadelphia, Pennsylvania, USA, May 2012.*

Shape reconstruction in impedance tomography and inverse scattering (with Roland Griesmaier). In *Applied Inverse Problems, College Station, Texas, USA, May 2011.*

Electromagnetic imaging with limited data (with Roland Griesmaier). In *SIAM Conference on Imaging Science, Chicago, Illinois, USA, April 2010.*

Qualitative methods for imaging problems in electromagnetics (with Armin Lechleiter). In *SIAM Conference on Imaging Science, San Diego, California, USA, July 2008.*

Inverse problems arising from scattering phenomena (with Hanna Pikkarainen). In *Applied Inverse Problems, Cirencester, UK, June 2005.*

Statistical methods in EIT and X-ray tomography (with Hanna Pikkarainen). In *Applied Inverse Problems, Cirencester, UK, June 2005.*

Talks at international conferences and workshops

Invited talks:

1. Linearized electrical impedance tomography: reconstruction and Lipschitz stability for infinite-dimensional spaces of square-integrable perturbations. In *Inverse Problems in Applications, Kuopio, Finland, May 2025.*
2. Linearized electrical impedance tomography: reconstruction and Lipschitz stability for infinite-dimensional spaces of perturbations. In *Finland–Japan Workshop in Industrial and Applied Mathematics, Helsinki, Finland, August 2024.*
3. Linearized inverse conductivity problem: reconstruction and Lipschitz stability for infinite-dimensional spaces of perturbations. In *Rich and non-linear tomography in medical imaging, materials and non destructive testing (RNTW02), Isaac Newton Institute, Cambridge, UK, March 2023.*
4. Edge-promoting sequential experimental design for X-ray imaging. In *Inverse Days 2022 (on the occasion of the 60th Birthday of Professor Jari Kaipio), Kuopio, Finland, December 2022.*
5. Logarithmic linearization for inverse elliptic boundary value problems. In *Chemnitz Symposium on Inverse Problems 2019 (on Tour in Frankfurt), Frankfurt, Germany, October 2019.*
6. Computational solution of inverse problems. In *Designs for Noise Reducing Materials and Structures (DENORMS) COST Action's fourth Workshop: Working Days on Design and Characterisation of Innovative Noise Reducing Materials and Structures, Kuopio, Finland, October 2018.*
7. Generalized linearization in electrical impedance tomography. In *Inverse Problems Network Meeting 3, University College London, UK, April 2018.*
8. Polynomial collocation for handling an inaccurately known measurement configuration in EIT. In *Theory and Numerics of Inverse Scattering Problems, Oberwolfach, Germany, September 2016.*
9. Polynomial collocation for handling an inaccurately known measurement configuration in electrical impedance tomography. *International Conference on Computational Mathematics and Inverse Problems, Michigan Tech, USA, August 2016.*
10. Simultaneous reconstruction of outer boundary shape and conductivity distribution in electrical impedance tomography. In *Advances in Uncertainty Quantification Methods, Algorithms and Applications (UQAW 2016), King Abdullah University of Science and Technology, Saudi Arabia, January 2016.*
11. Stochastic finite element method for electrical impedance tomography. In *Inverse Problems in Wave Propagation — IWaP 2015, Bremen, Germany, April 2015.*

12. Simultaneous reconstruction of body shape and conductivity in electrical impedance tomography. In *The Nineteenth Inverse Days, Inari, Finland, December 2013.*
13. Simultaneous reconstruction of body shape and conductivity in electrical impedance tomography. In *Biology and Mathematical Inverse Problems: A New Wedded couple?, Orleans, France, November 2013.*
14. Simultaneous reconstruction of outer boundary shape and conductivity distribution in electrical impedance tomography. In *Inverse Problems: Scattering, Tomography and Parameter Identification (Andreas Kirsch's 60th birthday), Bad Herrenalb, Germany, April 2013.*
15. Simultaneous reconstruction of outer boundary shape and conductivity distribution in electrical impedance tomography. In *Inverse problems and numerical methods in applications, Bremen, Germany, March, 2012.*
16. Electrical impedance tomography with two electrode. In *Inverse Problems for Partial Differential Equations, Oberwolfach, Germany, February, 2012.*
17. Electrical impedance tomography with two electrodes. In *Finnish–Japanese–Korean workshop on inverse problems, Helsinki, Finland, December 2011.*
18. A computational algorithm for locating inclusions with two electrodes of electrical impedance tomography. In *the annual general meeting of the Finnish Society of Computational Sciences (Sulatis), February 2011.*
19. The inverse backscatter problem in impedance tomography: unique identifiability and the backscattering support. In *Inverse Problems, Computation and Applications, CIRM Luminy, France, June 2010.*
20. Backscattering in electrical impedance tomography. In *MMNS Workshop on Inverse Problems for Waves: Methods and Applications, Paris, March 2010.*
21. Electrical impedance tomography: Backscattering and imaging of concrete. In *Trilateral workshop on inverse problem (China-Germany-Finland), Helsinki, March 2010.*
22. An inverse backscattering problem in electric impedance tomography. In *Finnish-Korean Symposium on Inverse Problems, Seoul, Republic of Korea, April 2009.*
23. Locating transparent cavities in optical absorption and scattering tomography. In *Inverse Problems in Wave Scattering, Oberwolfach, Germany, March 2007.*
24. Factorization method and weak inclusions in electrical impedance tomography. In *The 12th Annual Mathematical Analysis Seminar on Inverse Problems, Tsukuba, Japan, February 2007.*
25. Characterizing inclusions using a linear sampling method based on the complete electrode model of electrical impedance tomography. In *Workshop on Inverse Problems & Medical Imaging, Vancouver, Canada, August 2003.*

Invited talks in special sessions and minisymposia:

1. Linearized electrical impedance tomography: reconstruction and Lipschitz stability for infinite-dimensional spaces of perturbations. In *ENUMATH 2025, Heidelberg, Germany, 2025.*
2. Boundedness of the linearized forward map of EIT from square-integrable conductivity perturbations to Hilbert–Schmidt operators on square-integrable currents. In *Conference on Mathematics of Wave Phenomena, Karlsruhe, Germany, February, 2025.*
3. Bayesian design of measurements for magnetorelaxometry imaging. In *SIAM Conference on Uncertainty Quantification, Trieste, Italy, February–March, 2024.*
4. Edge-promoting adaptive Bayesian experimental design for X-ray imaging. In *Finnish Mathematical Days, Espoo, Finland, January 2024.*
5. On the linearized inverse conductivity problem. In *29th Nordic Congress of Mathematicians, Aalborg, Denmark, July 2023.*
6. Linearized inverse conductivity problem: reconstruction and Lipschitz stability for infinite-dimensional spaces of perturbations. In *Mathematical & Computational Issues in the Geosciences, Bergen, Norway, June 2023.*
7. Sequentially optimized projections in X-ray imaging. In *SIAM Conference on Computational Science and Engineering, Amsterdam, Netherlands, February–March 2023.*
8. Mimicking relative continuum measurements by electrode data in two-dimensional electrical impedance tomography. In *28th Nordic Congress of Mathematicians, Espoo, Finland, August 2022.*
9. Thermal tomography with unknown boundary shape. In *SIAM Conference on Imaging Science, March 2022 (virtual).*
10. Monotonicity method for extreme, singular and degenerate inclusions in electrical impedance tomography. In *Conference on Mathematics of Wave Phenomena, Karlsruhe, Germany, January 2022 (virtual).*
11. Edge-promoting adaptive experimental design for sequential X-ray imaging. In *16th U.S. National Congress on Computational Mechanics, Chicago, Illinois, USA, July 2021 (virtual).*

12. An inverse boundary value problem for the p-Laplacian: a linearization approach. In *Applied Inverse Problems 2019, Grenoble, France, July, 2019.*
13. Generalized linearization techniques and the smoothened complete electrode model. In *SIAM Conference on Imaging Science, Bologna, Italy, June 2018.*
14. Polynomial surrogates for electrical impedance tomography and thermal tomography. In *SIAM Conference on Imaging Science, Bologna, Italy, June 2018.*
15. Efficient inclusion of edge-promoting priors in quantitative photoacoustic tomography. In *SIAM Conference on Imaging Science, Bologna, Italy, June 2018.*
16. Inverse source problems arising from two-electrode measurements of electrical impedance tomography. In *Inverse Problems: Modeling and Simulation, Malta, May 2018.*
17. Experimental design in diffuse tomography. In *SIAM Conference in Uncertainty Quantification, Garden Grove, California, USA, May 2018.*
18. Polynomial surrogates for electrical impedance tomography. In *SIAM Annual Meeting, 2017, Pittsburgh, USA, July 2017.*
19. Efficient inclusion of edge-promoting priors in diffuse imaging. In *Applied Inverse Problems 2017, Hangzhou, China, June 2017.*
20. Polynomial surrogates for electrical impedance tomography. In *Applied Inverse Problems 2017, Hangzhou, China, May 2017.*
21. Optimal Electrode Positions in Electrical Impedance Tomography. In *SIAM Conference on Uncertainty Quantification, Lausanne, Switzerland, April 2016.*
22. Simultaneous reconstruction of outer boundary shape and conductivity distribution in electrical impedance tomography. In *27th Nordic Congress of Mathematicians, Stockholm, Sweden, March 2016.*
23. Optimization of electrode positions in electrical impedance tomography. In *Applied Inverse Problems, Helsinki, Finland, May 2015.*
24. Stochastic Galerkin finite element method for electrical impedance tomography. In *SIAM Conference on Imaging Science, Hong Kong, China, July 2014.*
25. Inverse conductivity problem in the plane: uniqueness by point measurements. In *International Conference on Inverse Problems and Related Topics, Nanjing, China, October 2012*
26. Inverse conductivity problem in the plane: Uniqueness by point measurements. In *SIAM Conference on Imaging Science, Philadelphia, Pennsylvania, USA, May 2012.*
27. Detection of multiple inclusions from sweep data of electrical impedance tomography. In *Finnish Mathematics Days, Lappeenranta, Finland, January 2012.*
28. Electrical impedance tomography with two electrodes. In *ICIAM 2011, Vancouver, Canada, July 2011.*
29. Electrical impedance tomography with two electrodes. In *Fields–Mitacs Conference on Mathematics of Medical Imaging, Toronto, Canada, June 2011.*
30. Justification of a point electrode model in electrical impedance tomography. In *Applied Inverse Problems, College Station, Texas, USA, May 2011.*
31. Electrical impedance tomography with two electrodes. In *Applied Inverse Problems, College Station, Texas, USA, May 2011.*
32. Convex backscattering support in electrical impedance tomography. In *The 8th AIMS Conference on Dynamical Systems and Differential Equations, Dresden, Germany, May 2010.*
33. Backscattering in electrical impedance tomography. In *SIAM Conference on Imaging Science, Chicago, Illinois, USA, April 2010.*
34. An inverse backscattering problem in electric impedance tomography. In *Applied Inverse Problems, Vienna, Austria, July 2009.*
35. Approximating idealized measurement maps of electric impedance tomography by electrode data. In *Applied Inverse Problems, Vienna, Austria, July 2009.*
36. Convex source support and its application to electric impedance tomography. In *SIAM Conference on Imaging Science, San Diego, California, USA, July 2008.*
37. Convex source support and its application to electric impedance tomography. In *The 7th AIMS Conference on Dynamical Systems and Differential Equations, Arlington, Texas, USA, May 2008.*
38. An implementation of the factorization method within the complete electrode model of electrical impedance tomography. In *Applied Inverse Problems, Vancouver, Canada, June 2007.*
39. Locating transparent cavities in optical absorption and scattering tomography. In *Applied Inverse Problems, Vancouver, Canada, June 2007.*

40. Factorization method and weak inclusions in electrical impedance tomography. In *Inverse Problems: Modeling and Simulation, Fethiye, Turkey, May 2006.*
41. Factorisation method in optical tomography. In *Applied Inverse Problems, Cirencester, UK, June 2005.*
42. Characterizing inclusions using a linear sampling method based on the complete electrode model of impedance tomography. In *Applied Inverse Problems, Lake Arrowhead, California, USA, June 2003.*
43. Analysis of optical tomography with non-scattering regions. In *Applied Inverse Problems, Montecatini Terme, Italy, June 2001.*

Other talks:

1. Electrical impedance tomography: a simple linearization approach. In *Colloquium of the Department of Mathematics and Systems Analysis, Aalto University, Helsinki, Finland, 2025.*
2. Short history of Finnish mathematics. In *Fysikerfest 2017, Kuopio, Finland, October 2017.*
3. Inverse backscattering in electric impedance tomography. In *The Fifteenth Inverse Days, Luosto, Finland, December 2009.*
4. An output least squares algorithm for locating nonscattering regions in optical tomography. In *The Thirteenth Inverse Days, Lappeenranta, Finland, December 2007.*
5. An output least squares algorithm for locating nonscattering regions in optical tomography. In *The 8th International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering, Lefkada, Greece, September 2007.*
6. An implementation of the factorization method within the complete electrode model of electrical impedance tomography. In *The Twelfth Inverse Days, Tampere, Finland, December 2006.*
7. Locating inclusions in electrical impedance tomography. In *BIT Numerical Mathematics Circus, Stockholm, Sweden, August 2006.*
8. Factorization method and purely absorbing inclusions in optical tomography. In *The Eleventh Inverse Days, Sodankylä, Finland, December 2005.*
9. Factorization method in optical tomography. In *The Ninth Inverse Days, Pudasjärvi, Finland, December 2003.*
10. Complete electrode model: approximation properties and characterization of inclusions. In *The Eighth Inverse Days, Nilsiä, Finland, December 2002.*
11. Analysis of optical tomography with non-scattering regions. In *The Sixth Inverse Days, Savukoski, Finland, December 2000.*

Non-academic positions of trust

Member of Body of Representatives, Student Union of Helsinki University of Technology, 1998–2000.

Board member (fuksikapteeni), Guild of Physics Students at Helsinki University of Technology, 1998.

Competitions

Member of Finland's squad at the International Mathematical Olympiad in Bombay in 1996.

Third place in the competition in mathematics for Finnish high school students in 1995.

Fifth place in the competition in physics for Finnish high school students in 1995.

Conscription

Nonmilitary service at the Department of Mathematics and Statistics at University of Helsinki, 2.8.2004–31.8.2005.