

Curriculum vitae – Lassi Roininen

Personal details

Name Roininen, Lassi Ilkka Juhana
Researcher ids ResearcherID: B-3984-2011, ORCID orcid.org/0000-0002-7014-6684
Year of birth 1979
Nationality Finland

Education and degrees completed

2017 Title of Docent in applied mathematics, University of Oulu, Finland
2015 PhD in applied mathematics, University of Oulu, Finland
2006 MSc (Tech) in applied mathematics, Tampere University of Technology, Finland

Current positions

2022–Current Professor (tenured) in Applied Mathematics,
School of Engineering Sciences, LUT University, Finland
2022–Current Head of the Degree Programme in Computational Engineering, LUT University, Finland
(mathematics, physics, computer science, and business analytics)
2023–Current Vice-head of the Department of Computational Engineering, LUT University, Finland
2021–Current Affiliated AIMS Faculty Member at the Quantum Leap Africa
Research Centre of the African Institute for Mathematical Sciences, Rwanda
2020–Current Adjunct Associate Professor in mathematics, Department of Mathematics,
Bahir Dar University, Ethiopia

Previous work experience

2018–2022 Associate Professor in Applied Mathematics (tenure track),
School of Engineering Sciences, LUT University, Finland
2018–2020 Academy of Finland Postdoctoral Researcher,
School of Engineering Sciences, LUT University, Finland
2017–2018 Academy of Finland Postdoctoral Researcher
Sodankylä Geophysical Observatory, University of Oulu, Finland
2017 Postdoctoral Research Associate
Department of Mathematics, Imperial College London, United Kingdom
2016 Postdoctoral Research Associate
Department of Statistics, University of Warwick, United Kingdom
2015–2016 Postdoctoral Researcher
Department of Mathematics, Tallinn University of Technology, Estonia
2008–2015 Researcher, Sodankylä Geophysical Observatory, University of Oulu, Finland

Personal research funding and grants

2024–2026 Dynamic observation error determination using deep learning methods,
Deutscher Wetterdienst (German Weather Service), €189,000 (PI)
2024–2027 Doctoral Education Pilot for Mathematics of Sensing, Imaging and Modelling, €25.5m (Co-PI)
2024–2031 Flagship for Advanced mathematics for Sensing, Imaging and Modelling,
Research Council of Finland, €1,033,328 (Co-PI)
2024–2025 CubeSat ground station, Lappeenranta city council, €95,000 (PI)
2023–2025 Centre of Excellence in Inverse Modelling and Imaging, Academy of Finland, €222,784 (PI)
2023–2025 3D Printing for Personalized Medicine, Business Finland, €139,930 (PI)
2023 Bayes Comp 2023, The Federation of Finnish Learned Societies, €8,000 (PI)
2021–2024 Ministry of Education and Culture - Finland-Africa Platform for Innovation,
Applied Mathematics PhD Programmes, €120,000 (PI)

2021–2025	LUT University research platform, Integrated Energy Conversion Machinery €2m (Co-PI)
2020	Fazer Ltd., custom research on dryer modelling & uncertainty quantification €24,095 (Co-PI)
2020–2021	Academy of Finland, Data Assimilation and Bayesian Inversion for Large-scale Atmospheric Models, Mobility grant between LUT and U. Potsdam (Germany) €5,700 (PI)
2019–2021	Academy of Finland, Sawing Optimization via Deep Learning and Multi-instrument Imaging, bilateral Finland-Sweden Tandem Forest Values programme, €242,514 (PI)
2019	International Centre for Math. Sciences (Edinburgh), Research in Groups £3,500 (PI)
2019	FinCEAL Plus BRIDGES research visit grant €3,500 (PI)
2018	University of Oulu Graduate School Workshop on Computational Mathematics and Data Science, €7,162 (PI)
2018–2019	Academy of Finland, Probabilistic Deep Learning via Hierarchical Stochastic Partial Differential Equations, targeted call ICT 2023: Computation, Machine Learning and Artificial Intelligence, €175,292 (PI)
2017–2020	Academy of Finland, Hypermodels and stable priors for Bayesian inversion with applications in ionospheric tomography and subsurface imaging, Postdoctoral researcher, €265,670 (PI)
2009–2015	East-Africa Technomathematics, Centre for International Mobility of Finland (Co-PI)
2013–2016	Mathematics Education and Working Life Relevance in East-Africa, Ministry for Foreign Affairs of Finland (Co-PI)
2012	Inverse Problems Africa 2012, National Science Foundation, USA, \$10,000 (PI)
2008–2009	Väisälä grant, for doctoral studies, 2008-2009, €15,000 (PI)

Leadership and supervision experience

Superior to	Guest Prof Jana de Wiljes, Assoc Prof Jesse Railo, Project Manager Dr Matti Heiliö, University Teachers Dr Jouni Sampo and Juho Virpiranta,
Postdocs	Dr Tomas Soto, Dr Felipe Uribe, Dr Miracle Amadi, Dr Jarkko Suuronen
PhD students (Primary)	Graduation 2024: Angelina Senchukova (defence Oct 4), Michel Rwema (defence Dec) Graduation 2025: Theonille Mukamana, Yassin Tesfaw Graduation 2026: Victoria Jorry, Rabia Altunay Graduation 2027: Laura Bazahica, Emma Hannula, Janne Penttilä
PhD students (Secondary)	Graduation 2025: Lasse Johansson, Rodrigo Rojo Garcia
2018–2024	Completed 3 PhD theses, 32 MSc theses, 9 BSc theses

Teaching experience

2020–22, 2024	Head of MSc degree programme on Data-Centric Engineering (LUT)
2023–2024	Current courses: Statistical parameter estimation (5 ECTS), Bayesian continuous-parameter estimation (5 ECTS), Seminar on Mathematical Sciences (2 ECTS)
2018–2023	Previous courses in LUT: Statistical Analysis in Modelling (6 ECTS), Statistical Methods for Inverse Problems (5-12 ECTS), Case Study Seminar (6 ECTS)
2019–Current	Double degree doctoral programme between LUT and Bahir Dar University, Ethiopia, initiator and coordinator
2009–2015	Coordinator of a staff and student exchange programme University of Oulu and Bahir Dar University, Ethiopia
2009–2020	Teaching duties in numerous summer schools
2020–2022	External sensor on PhD courses, UiT the Arctic University of Norway
2024	PhD Examiner, University of Klagenfurt, Austria
2024	PhD Examiner, DTU Technical University of Denmark
2024	Pre-examiner, University of Eastern Finland

2023 Pre-examiner, University of Helsinki, Finland
 2022 Member of the PhD committee, University of Luleå, Sweden
 2022 Pre-examiner, University of Helsinki, Finland
 2022 PhD opponent, UiT the Arctic University of Norway
 2020 Pre-examiner PhD thesis, University of Auckland, Dept of Mathematics, New Zealand
 2017 PhD opponent, LUT University, Finland
 2017 Opponent PhD thesis, Alexander Bibov, Lappeenranta University of Technology, 2017

Experience of organising scientific meetings

2024 EAUMP-ICTP School on the Mathematics of AI, Uganda (Academic Lead)
 2023 Bayes Comp – biennial conference of the Bayesian Computation Section of the International Society for Bayesian Analysis, Levi, Finland (Main organiser)
 2020 IEEE International Workshop on Machine Learning for Signal Processing, Espoo, Finland (Co-organiser)
 2019 Stochastic Partial Differential Equations with Applications in Finance, Lappeenranta, Finland (Main organiser)
 2018 Workshop on Computational Mathematics and Data Science, Oulu, Finland (Main organiser)
 2017 3rd Inverse Problems Africa, Kampala, Uganda (Co-organiser)
 2015 2nd Inverse Problems Africa, Dar es Salaam, Tanzania (Co-organiser)
 2013 Inverse Days, Sodankylä and Inari, Finland (Main organiser)
 2012 1st Inverse Problems Africa 2012, Bahir Dar, Ethiopia (Main organiser)
 2009 Inverse Days, Luosto, Finland (Main organiser)

Other key scientific or academic merits

2022–Current Associate editor: Statistics and Computing, Foundation of Data Science
 2021 Guest editor: Journal of Signal Processing Systems
 2019–2021 Research Foundation of LUT University, substitute board member
 2010–Current Reviewer of e.g. Journal of Geophysical Research – Space Physics, PLoS ONE, Journal of Atmospheric and Solar-Terrestrial Physics, Advances in Space Research, IET Radar, Sonar & Navigation, Statistics & Computing, IEEE Access, SIAM/ASA Journal on Uncertainty Quantification, Journal of Spatial Science, Geoscientific Model Development, Nonlinear Processes in Geophysics, SIAM J. Scientific Computing, Proceedings of the Royal Society A, Inverse Problems

Memberships and positions of trust in scientific societies

2024 Member of the Society of Industrial and Applied Mathematics
 2022 Member of the International Society for Bayesian Analysis
 2018 Member of the Finnish Mathematical Society
 2009 Member of the Finnish Inverse Problems Society