CURRICULUM VITAE

Personal details

Surname:	Sahlström
First names:	Teemu-Taneli Tapio
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Date of the CV:	25.11.2025

Degrees

29.12.2023	PhD, Technical Physics, "Computational methods for modelling and inverse problem of photoacoustic tomography", University of Eastern Finland (UEF), Kuopio, Finland. Supervisors: Professor Tanja Tarvainen and Senior Researcher Aki Pulkkinen
07.02.2019	MSc, Applied Physics, "Approximation error modelling in photoacoustic tomography", UEF, Kuopio, Finland
15.05.2017	BSc, Applied Physics, "X-Ray imaging of newly formed bone", UEF, Kuopio, Finland
04.06.2011	Matriculation, Raisio high school, Raisio, Finland

Current employment

1.1.2024–31.5.2026	Postdoctoral researcher, UEF, Department of Technical Physics, Kuopio, Finland. ERC CoG funded project "Quantitative Tomography Using Coupled Physics of Waves" of Professor Tanja Tarvainen. Academic research career stage: II

Previous work experience

1.2.2019–31.12.2023	PhD student, Department of Technical Physics, UEF, Kuopio, Finland
1.6.2018–31.1.2019	Research assistant, Department of Applied Physics, UEF, Kuopio, Finland
1.6–1.8.2017	Research trainee, Department of Applied Physics, UEF, Kuopio, Finland
1.6–1.8.2016	Research trainee, Department of Applied Physics, UEF, Kuopio, Finland

Research funding and grants

2026	Orion research foundation, 25000€, personal research grant, "Quantitative thermoacoustic tomography – towards a novel medical imaging technique"
2026–2027	Jenny and Antti Wihuri foundation, 36000€, personal research grant, "Modelling and image reconstruction in quantitative thermoacoustic tomography (QTAT)"
2022	Saastamoinen foundation, 4000€, reseach visit grant to University of Halle-Wittenberg, Halle, Germany
2021–2022	University of Eastern Finland, Faculty of Science and Forestry, 60000€, funded doctoral programme position

Research output

Peer-reviewed scientific publications: 10
Non-refereed scientific publications: 2

Research supervision and leadership experience

Supervision of PhD students

2025–	Samuli Summala, *Monte Carlo methods and stochastic optimisation in quantitative photoacoustic tomography*, in progress
2024–	Karoliina Puronhaara, *Surrogate modelling in thermoacoustic tomography*, in progress

Supervision of MSc students

2024 Eemeli Muurainen, *Utilising neural networks in Monte-Carlo simulations in Quantitative Photoacoustic Tomography*. Eemeli Muurainen received the Savilahti-price for distinguished masters thesis

2024 Karoliina Puronhaara, *Utilising Fourier neural operators for ultrasound field simulation in photoacoustic tomography*

2023 Miika Suhonen, *Direct estimation of optical absorption in quantitative photoacoustic tomography*. Miika Suhonen received the award for best masters thesis from the Photonics Institute of the UEF

Supervision of BSc students

Oskari Fager (in progress), Aaron Juuti (2025), Eemeli Muurainen (2023), Karoliina Puronhaara (2023), Uula Isopahkala (2022)

Teaching merits

Teaching assistant on Technical Physics courses

Optimisation (2022), Finite element method (2021), Numerics of computational physics (2020), Physical acoustics (2020), Preliminary course on mathematics (2018 and 2017)

Awards and honours

2024 An article was chosen in the ”SIAM High Impact Article Collection of frequently downloaded and highly cited articles on machine learning” collection. T. Sahlström et. al., *SIAM Journal of Imaging Sciences*, 16(1):89-110, 2023.

2019 2nd place in the best masters thesis poster competition, Medical Physics Days, Turku, Finland

Other key academic merits

International research visits

5/2025 Visiting researcher, research group of professor Amelie Litman, Fresnel Institute, Marseille, France

5–7/2022 Visiting researcher, research group of professor Jan Laufer, University of Halle-Wittenberg, Halle, Germany

Referee for scientific publications

IEEE Transactions on Computational Imaging (1), *IEEE Transactions on Ultrasonics Ferroelectrics, and Frequency Control (1)*, *Journal of Biomedical Optics (2)*, *Journal of Inverse and Ill-Posed Problems (1)*, *Photoacoustics (4)*, *Handbook of Numerical Analysis (1)*

Talks and presentations

Oral presentations: 14
Poster presentations: 5

Organisation of minisymposia

7/2025 Imaging using coupled physics, together with Niko Hänninen and Tanja Tarvainen, Applied Inverse Problems conference, 28.7.–1.8., 2025, Rio de Janeiro, Brazil

Participation in organisation of scientific conferences and workshops

5/2025 Workshop "Inverse Problems in Applications", 6.5.–7.5., 2025, Kuopio, Finland

3/2025 Workshop "Quantitative photoacoustic tomography - from theory to applications", 18.3.–20.3., 2025, Kuopio, Finland

Memberships in academic societies

SIAM Society for Industrial and Applied Mathematics
SPIE The International Society for Optics and Photonics
Finnish Inverse Problems Society

Other merits

Other merits

2011–2012	Conscription: Finnish Rapid Deployment Forces, Pori Brigade, Säkylä, Finland. Reserve military rank: sergeant
2020–2023	Member of the board, Deep in the Forest disc golf club, Kuopio, Finland
1997–2007	Vocational qualification in music. Instrument: cello