

**Personal details**

Surname: Sahlström  
 First names: Teemu-Taneli Tapio  
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 Date of the CV: 15.4.2026

**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**

1.1.2026-31.7.2027 Postdoctoral grant researcher, UEF, Department of Technical Physics, Kuopio, Finland  
 Academic research career stage: II  
 1.1.2026-31.12.2026 Postdoctoral researcher (part time), UEF, Department of Technical Physics, Kuopio, Finland. ERC CoG funded project "Quantitative Tomography Using Coupled Physics of Waves" of Professor Tanja Tarvainen

**Previous work experience**

1.1.2024-31.12.2025 Postdoctoral researcher, UEF, Department of Technical Physics, Kuopio, Finland. ERC CoG funded project "Quantitative Tomography Using Coupled Physics of Waves" of Professor Tanja Tarvainen  
 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**

8/2026-7/2027 Jenny and Antti Wihuri foundation, 36000€, personal research grant, "Modelling and image reconstruction in quantitative thermoacoustic tomography (QTAT)"  
 1/2026-7/2026 Orion research foundation, 25000€, personal research grant, "Quantitative thermoacoustic tomography - towards a novel medical imaging technique"  
 5-7/2022 Saastamoinen foundation, 4000€, research visit grant to University of Halle-Wittenberg, Halle, Germany  
 1/2021-12/2022 University of Eastern Finland, Faculty of Science and Forestry, 60000€, funded doctoral programme position

## Research output

Peer-reviewed scientific publications: 12

Non-refereed scientific publications: 3

## 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

- 2026 Aaron Juuti (in progress)
- 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 (2026), 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

- 2-3/2026 Visiting researcher, research group of Associate Professor Olumide Ogunlade, University of Birmingham, Birmingham, United Kingdom
- 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* (5), *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

## Scientific and societal impact

2026

Science visits and research introductions in comprehensive schools (grades 7-9) , Science Adventure in Eastern Finland outreach program of the LUMA-centre of the University of Eastern Finland

## Other merits

Other merits

2011-2012

Conscription: Finnish Rapid Deployment Forces, Pori Brigade, Säskylä, 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