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List of Publications

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Articles in refereed scientific journals

1. Lunz S, Hauptmann A, Tarvainen T, Schönlieb C-B, Arridge S, On learned operator correction, *SIAM Journal on Imaging Sciences*, Submitted.
2. Mozumder M, Tarvainen T, Evaluation of temporal moments and Fourier transformed data in time-domain diffuse optical tomography, *Journal of the Optical Society of America A*, Accepted for publication.
3. Leino A, Lunttila T, Mozumder M, Pulkkinen A, Tarvainen T, Perturbation Monte Carlo method for quantitative photoacoustic tomography, *IEEE Transactions on Medical Imaging*, 39(19):2985-2995, 2020.
4. Sahlström T, Pulkkinen A, Tick J, Leskinen J, Tarvainen T, Modelling of errors due to uncertainties in ultrasound sensor locations in photoacoustic tomography, *IEEE Transactions on Medical Imaging*, 39(6):2140-2150, 2020.
5. Hänninen N, Pulkkinen A, Leino A, Tarvainen T, Application of diffusion approximation in quantitative photoacoustic tomography in the presence of low-scattering regions, *Journal of Quantitative Spectroscopy and Radiative Transfer*, 250:107065, 2020.
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Book chapters

1. Tarvainen T, Quantitative photoacoustic tomography in Bayesian framework, In R. Ramlau and O. Scherzer Eds., *Radon Transform -The First 100 Years and Beyond*, De Gruyter, ISBN 978-3-11-055941-5 (print) 978-3-11-056085-5 (PDF) 978-3-11-055951-4 (EPUB), pages 239-271, 2019.
2. Vauhkonen M, Tarvainen T, Lähivaara T, Inverse Problems, In S. Pohjolainen, Editor, *Mathematical Modelling*, Springer, pages 207-227, 2016.
3. Arridge SR, Kaipio JP, Kolehmainen V, Tarvainen T, Optical Imaging, In O. Scherzer, Editor, *Handbook of Mathematical Methods in Imaging*, Springer Reference, Springer (New York), pages 735-780, (DOI: 10.1007/978-0-387-92920-0_17), 2011.

Articles in professional journals

1. Tarvainen T, Ihmisen kuvantaminen valoa käyttäen, In *Arkhimedes – Journal of Physics and Mathematics*, The Finnish Physical Society, the Finnish Mathematical Society and the Physical Society in Finland, 2:14-19, 2016.

Theses (monographs)

1. Tarvainen T, Computational Methods for Light Transport in Optical Tomography, PhD thesis, University of Kuopio, Kuopio, Finland, 2006.
2. Vilhunen T, Determining Dielectric Properties of Biological Tissue (In Finnish), MSc thesis, University of Kuopio, Kuopio, Finland, 2000.

Invention disclosures

1. MATLAB-toolbox for simulating light transport using Monte Carlo method, UEF Dno 323.02.07.03.01.18, 26.2.2018.

2. Photoacoustic tomography system based on LED illumination, UEF Dno 407/02.07.03.01/2018, 19.3.2018.

Software

1. ValoMC - A Monte Carlo software for simulating light transport <https://inverselight.github.io/ValoMC/>