

A Peer-reviewed scientific articles

1. Timo Lähivaara, William Hall, Matti Malinen, Dale Ota, Vijaya Shankar, and Peter Monk. UWVF: A Trefftz numerical method for Maxwell's equations. **Chapter in More Adventures in Contemporary Electromagnetic Theory, Springer, Cham, 2025.**
2. Teemu Sahlström, Timo Lähivaara, and Tanja Tarvainen. Simultaneous estimation of electrical conductivity and permittivity in quantitative thermoacoustic tomography. **Inverse Problems, 41:035015, 2025.**
3. Mahnaz Khalili, Peter Göransson, Jan S. Hesthaven, Suvi Heinonen, Antti Pasanen, Marko Vauhkonen, and Timo Lähivaara. Uncertainty Quantification in Groundwater Volume Predictions from Seismic Data Using Neural Networks. **30th European Meeting of Environmental and Engineering Geophysics, Finland, 2024.**
4. Michael-David Johnson, Jacques Cuenca, Timo Lähivaara, Giulio Dolcetti, Mansour Alkmim, Laurent De Ryck, and Anton Krynkina. Bayesian reconstruction of surface shape from phaseless scattered acoustic data. **Journal of Acoustical Society of America, 156:4024-4036, 2024.**
5. Andrea Porcheddu, Ville Kolehmainen, Timo Lähivaara, and Antti Lipponen. Post-process correction improves the accuracy of satellite PM2.5 retrievals. **Atmospheric Measurement Techniques, 17(19):5747-5764, 2024.**
6. Mahnaz Khalili, Peter Göransson, Jan S. Hesthaven, Antti Pasanen, Marko Vauhkonen, and Timo Lähivaara. Monitoring of water volume in a porous reservoir using seismic data: A 3D simulation study. **Journal of Applied Geophysics, 229:105453, 2024.**
7. Muhammad Ziaul Arif, Timo Lähivaara, and Marko Vauhkonen. Deep Learning-Assisted Dual-Modal Tomography for Phase Flow Rate Estimation in Two-Phase Oil-Water Flow Systems. **Measurement Science and Technology, 35:075302, 2024.**
8. Timo Lähivaara, William Hall, Matti Malinen, Dale Ota, Vijaya Shankar, and Peter Monk. A high-order Ultraweak Variational Formulation for electromagnetic waves utilizing curved elements. **IEEE Transactions on Antennas and Propagation, 72(5):4440-4453, 2024.** (paper has been selected for inclusion in the Featured Articles collection)
9. Mikko Kukkonen, Timo Lähivaara, and Petteri Packalen. Combination of LiDAR intensity and texture features enable accurate prediction of common boreal tree species with single sensor UAS data. **IEEE Transactions on Geoscience and Remote Sensing, 62:1-8, 2024.**
10. Khashayar Shahrezaei, Ciaran O'Reilly, Timo Lähivaara, and Peter Göransson. Transport efficiency of delivery trucks: a study of coupling vehicle design and transport system through functional modelling and optimisation. **Proceedings of the Design Society, 3:3631-3640, 2023.**
11. Timo Lähivaara, Peter Göransson, Suvi Heinonen, Bojan Brodic, Jan S. Hesthaven, Mahnaz Khalili, Antti Pasanen, Rahul Yadav, and Marko Vauhkonen. Monitoring of Water Table Level and Volume of Water in a Porous Storage by Seismic Data. **29th European Meeting of Environmental and Engineering Geophysics, United Kingdom, 2023.**

12. Ville Pulkki, Rapolas Daugintis, Timo Lähivaara, and Aleksi Öyry. Perceived difficulty of upwind shouting is a misconception explained by convective attenuation effect. **Nature Scientific Reports**, 13:5240, 2023.
13. Matti Niskanen and Timo Lähivaara. COMPOSTI: A Python-based program for seismic trans-dimensional inversion. **SoftwareX**, 21:101298, 2023.
14. Henri Taskinen, Arttu Väisänen, Lauri Hatakka, Timo H. Virtanen, Timo Lähivaara, Antti Arola, Ville Kolehmainen, and Antti Lipponen. High-resolution post-process corrected satellite AOD. **Geophysical Research Letters**, 49:e2022GL099733, 2022.
15. Uwe Hampel, Laurent Babout, Robert Banasiak, Eckhard Schleicher, Manuchehr Soleimani, Thomas Wondrak, Marko Vauhkonen, Timo Lähivaara, Chao Tan, Brian Hoyle, and Alexander Penn. A review on fast tomographic imaging techniques and their potential application in industrial process control, **Sensors**, 22(6):2309, 2022.
16. Marzieh Hosseini, Anna Kaasinen, Mahdi Aliyari Shoorehdeli, Guido Link, Timo Lähivaara, and Marko Vauhkonen. Tomography-assisted control for the microwave drying process of polymer foams, **Journal of Process Control**, 114:16-28, 2022.
17. Timo Lähivaara, Peter Monk, and Virginia Selgas. The Time Domain Linear Sampling Method for Determining the Shape of a Scatterer using Electromagnetic Waves, **Computational Methods in Applied Mathematics**, 22(4):889-913, 2022.
18. Antti Lipponen, Jaakko Reinval, Arttu Väisänen, Henri Taskinen, Timo Lähivaara, Larisa Sogacheva, Pekka Kolmonen, Kari Lehtinen, Antti Arola, and Ville Kolehmainen. Deep Learning Based Correction of the Aerosol Parameters in Sentinel-3 Synergy Product, **Atmospheric Measurement Techniques**, 15(4):895-914, 2022.
19. Rahul Yadav, Adel Omrani, Guido Link, Marko Vauhkonen, and Timo Lähivaara. Correlated Sample-based Prior in Bayesian Inversion Framework for Microwave Tomography, **IEEE Transactions on Antennas and Propagation**, 70(7):5860-587, 2022.
20. Jacques Cuenca, Peter Göransson, Laurent De Ryck, and Timo Lähivaara. Deterministic and statistical methods for the characterisation of poroelastic media from multi-observation sound absorption measurements. **Mechanical Systems and Signal Processing**, 163:108186, 2022.
21. Adel Omrani, Rahul Yadav, Guido Link, Timo Lähivaara, Marko Vauhkonen, and John Jelonk. Multistatic Uniform Diffraction Tomography Derived Structural-Prior in Bayesian Inversion Framework for Microwave Tomography, **IEEE Transactions on Computational Imaging**, 8:986-995, 2022.
22. Lauri Mehtätalo, Adil Yazigi, Kasper Kansanen, Petteri Packalen, Timo Lähivaara, Matti Maltamo, Mari Myllymäki, and Antti Penttinen. Estimation of forest stand characteristics using individual tree detection, stochastic geometry and a sequential spatial point process model, **International Journal of Applied Earth Observation and Geoinformation**, 112:102920, 2022.
23. Kasper Kansanen, Petteri Packalen, Timo Lähivaara, Aku Seppänen, Jari Vauhkonen, Matti Maltamo, and Lauri Mehtätalo. Refining and evaluating a Horvitz-Thompson-like stand density estimator in individual tree detection based on airborne laser scanning, **Canadian Journal of Forest Research**, 52(4):527-538, 2021.

24. Marzieh Hosseini, Anna Kaasinen, Mahdi Aliyari Shoorehdeli, Guido Link, Timo Lähivaara, and Marko Vauhkonen. System identification of conveyor-belt microwave drying process of polymer foams using electrical capacitance tomography, **Sensors**, **21:7170**, 2021.
25. Adel Omrani, Rahul Yadav, Guido Link, Timo Lähivaara, Marko Vauhkonen, and John Jelonek. An Electromagnetic Time-Reversal Imaging Algorithm for Moisture Detection in Polymer Foam in an Industrial Microwave Drying System, **Sensors**, **21:7409**, 2021.
26. Rahul Yadav, Adel Omrani, Guido Link, Marko Vauhkonen, and Timo Lähivaara. Microwave Tomography using Neural Networks for its Application in an Industrial Microwave Drying System, **Sensors**, **21:6919**, 2021.
27. Janne Koponen, Timo Lähivaara, Jari Kaipio, and Marko Vauhkonen. Model reduction in acoustic inversion by artificial neural network. **Journal of Acoustical Society of America**, **150**, 3435-3444, 2021.
28. Nicholas F. Dudley Ward, Simon Eveson, and Timo Lähivaara. A Discontinuous Galerkin method for three-dimensional poroelastic wave propagation: forward and adjoint problems. **Computational Methods and Function Theory**, **21:737-777**, 2021.
29. Adel Omrani, Rahul Yadav, Guido Link, Timo Lähivaara, Marko Vauhkonen, and John Jelonek. A Combined Microwave Imaging Algorithm for Localization and Moisture Level Estimation in Multilayered Media, **15th European Conference on Antennas and Propagation (EuCAP)**, 2021.
30. Rahul Yadav, Adel Omrani, Guido Link, Marko Vauhkonen, and Timo Lähivaara. Microwave Tomography for Moisture Level Estimation Using Bayesian Framework, **15th European Conference on Antennas and Propagation (EuCAP)**, 2021.
31. Tomi Nissinen, Sanna Suoranta, Taavi Saavalainen, Toni Rikkonen, Reijo Sund, Heikki Kröger, Timo Lähivaara, and Sami P. Väänänen. Detecting pathological features and predicting fracture risk from dual-energy X-ray absorptiometry images using deep learning, **Bone Reports**, **14:101070**, 2021.
32. Timo Lähivaara, Rahul Yadav, Guido Link, and Marko Vauhkonen. Estimation of moisture content distribution in porous foam using microwave tomography with neural networks, **IEEE Transactions on Computational Imaging**, **6:1351-1361**, 2020.
33. Marzieh Hosseini, Anna Kaasinen, Guido Link, Timo Lähivaara, and Marko Vauhkonen. Electrical Capacitance Tomography to measure moisture distribution of polymer foam in a microwave drying process. **IEEE Sensors**, **21(16):18101-18114**, 2021.
34. Marzieh Hosseini, Anna Kaasinen, Guido Link, Timo Lähivaara, and Marko Vauhkonen. LQR Control of moisture distribution in microwave drying process based on a finite element model of parabolic PDEs. **The 21st International Federation of Automatic Control (IFAC) World Congress, Germany**, **53(2):11470-11476**, 2021.
35. Kenneth Muhumuza, Lassi Roininen, Janne M.J. Huttunen, and Timo Lähivaara. A Bayesian-based approach to improving acoustic Born waveform inversion of seismic data for viscoelastic media. **Inverse problems**, **36:075010**, 2020.
36. Rahul Yadav, Marko Vauhkonen, Guido Link, Stefan Betz, and Timo Lähivaara. Microwave tomography for estimating moisture content distribution in porous foam using neural networks. **The 14th European Conference on Antennas and Propagation, Denmark**, 2020.

37. Matti Niskanen, Aroune Duclos, Olivier Dazel, Jean-Philippe Groby, Jari Kaipio, and Timo Lähivaara. Estimating the material parameters of an inhomogeneous poroelastic object from ultrasonic measurements in water. **Journal of Acoustical Society of America**, **146(4):2596-2607**, 2019.
38. Timo Lähivaara, Alireza Malehmir, Antti Pasanen, Leo Kärkkäinen, Janne M.J. Huttunen, and Jan S. Hesthaven. Estimation of groundwater storage from seismic data using deep learning. **Geophysical Prospecting** **67(8):2115-2126**, 2019.
39. Petri Varvia, Timo Lähivaara, Matti Maltamo, Petteri Packalen, and Aku Seppänen. Gaussian process regression for forest attribute estimation from airborne laser scanning data. **IEEE Transactions on Geoscience and Remote Sensing**, **57(6):3361-3369**, 2019.
40. Jari P. Kaipio, Tomi Huttunen, Teemu Luostari, Timo Lähivaara, and Peter Monk. A Bayesian approach to improving the Born approximation for inverse scattering with high contrast materials. **Inverse Problems**, **35(8):084001**, 2019.
41. Matti Niskanen, Olivier Dazel, Jean-Philippe Groby, Aroune Duclos, and Timo Lähivaara. Characterising poroelastic materials in the ultrasonic range - A Bayesian approach. **Journal of Sound and Vibration**, **456:30-48**, 2019.
42. Peter Göransson, Jacques Cuenca, and Timo Lähivaara. Parameter estimation in modelling frequency response of coupled systems using a stepwise approach. **Mechanical Systems and Signal Processing**, **126(1):161-175**, 2019.
43. Kasper Kansanen, Jari Vauhkonen, Timo Lähivaara, Aku Seppänen, Matti Maltamo, and Lauri Mehtätalo. Estimating forest stand density and structure using Bayesian individual tree detection, stochastic geometry, and distribution matching. **ISPRS Journal of Photogrammetry and Remote Sensing**, **152:66-78**, 2019.
44. Kenneth Muhumuza, Morten Jakobsen, Teemu Luostari, and Timo Lähivaara. Seismic monitoring of CO₂ injection using a distorted Born T-matrix approach in acoustic approximation. **Journal of Seismic Exploration**, **27:403-431**, 2018.
45. Jacques Cuenca, Peter Göransson, and Timo Lähivaara. Inverse parameter estimation in resonant, coupled fluid-structure interaction problems. **International Conference on Noise and Vibration Engineering, Belgium**, 2018.
46. Timo Lähivaara, Leo Kärkkäinen, Janne M.J. Huttunen, and Jan S. Hesthaven. Estimation of porous material parameters using ultrasound tomography and deep learning. **9th World Congress on Industrial Process Tomography, United Kingdom**, 2018.
47. Timo Lähivaara, Leo Kärkkäinen, Janne M.J. Huttunen, and Jan S. Hesthaven. Deep convolutional neural networks for estimating porous material parameters with ultrasound tomography. **Journal of Acoustical Society of America**, **143(2):1148-1158**, 2018.
48. Jorma Joutsensaari, Matthew Ozon, Tuomo Nieminen, Santtu Mikkonen, Timo Lähivaara, Stefano Decesari, M. Christina Facchini, Ari Laaksonen, and Kari E. J. Lehtinen. Identification of new particle formation events with deep learning, **Atmospheric Chemistry and Physics**, **18:9597-9615**, 2018.
49. Ville Pulkki, Ilkka Huhtakallio, and Timo Lähivaara. Effects of flow gradients on directional radiation of human voice. **Journal of Acoustical Society of America**, **143(2):1173-1181**, 2018.

50. Teemu Luostari, Timo Lähivaara, Petteri Packalen, and Aku Seppänen. Bayesian approach to single-tree detection in airborne laser scanning - use of training data for prior and likelihood modeling. **Journal of Physics: Conference Series**, 1047:012008, 2018.
51. Matti Niskanen, Jean-Philippe Groby, Aroune Duclos, Olivier Dazel, Jean Christophe Le Roux, Nicolas Poulain, Tomi Huttunen, and Timo Lähivaara. Deterministic and statistical characterization of rigid frame porous materials from impedance tube measurements. **Journal of Acoustical Society of America**, 141(4):2407-2418, 2017.
52. Nicholas F. Dudley Ward, Timo Lähivaara, and Simon Eveson. A discontinuous Galerkin method for poroelastic wave propagation: The two-dimensional case. **Journal of Computational Physics**, 350:690-727, 2017.
53. Teemu Luostari, Timo Lähivaara, Petteri Packalen, and Aku Seppänen. Bayesian approach to single-tree detection in airborne laser scanning - use of training data for prior and likelihood modeling. **9th International Conference on Inverse Problems in Engineering (ICIPE)**, Canada, 2017.
54. Timo Lähivaara, Antti Pasanen, Alireza Malehmir, and Jari Kaipio. Full-waveform seismic inversion for estimating aquifer dimensions and hydrologic parameters. **23rd European Meeting of Environmental and Engineering Geophysics**, Sweden, 2017, a best paper award.
55. Petri Varvia, Timo Lähivaara, Matti Maltamo, Petteri Packalen, Timo Tokola, and Aku Seppänen. Uncertainty quantification in ALS-based species specific forest inventory. **IEEE Transactions on Geoscience and Remote Sensing**, 55:1671-1681, 2017.
56. Teemu Luostari, Timo Lähivaara, Petteri Packalen, and Aku Seppänen. Modeling of ALS data statistics in tree-level - application to single tree detection using Bayesian inference. **Forestsat, Chile**, 2016.
57. Matti Niskanen, Aroune Duclos, Timo Lähivaara, Olivier Dazel, Jean-Philippe Groby, and Tomi Huttunen. Characterization of a porous plate saturated with water using Bayesian inversion. **The 22nd International Congress on Acoustics (ICA 2016)**, Argentina, 2016.
58. Matti Niskanen, Jean-Philippe Groby, Aroune Duclos, Olivier Dazel, Timo Lähivaara, and Tomi Huttunen. Inverse acoustic characterization of rigid frame porous materials from impedance tube measurements. **The 22nd International Congress on Acoustics (ICA 2016)**, Argentina, 2016.
59. Matti Niskanen, Jean-Philippe Groby, Aroune Duclos, Olivier Dazel, Jean Christophe Le Roux, Nicolai Poulain, Timo Lähivaara, and Tomi Huttunen. Inverse acoustic characterization of rigid frame porous materials from impedance tube measurements. **Internoise**, Germany, 2016.
60. Kasper Kansanen, Jari Vauhkonen, Timo Lähivaara, and Lauri Mehtätalo. Stand density estimators based on individual tree detection and stochastic geometry. **Canadian Journal of Forest Research**, 46:1359-1366, 2016.
61. Tiangang Cui, Nicholas F. Dudley Ward, Simon Eveson, and Timo Lähivaara. A pragmatic approach to calibrating distributed parameter groundwater models from pumping test data using adaptive delayed acceptance MCMC. **Journal of Hydrologic Engineering**, 21(2):06015011, 2016.
62. Marko Vauhkonen, Tanja Tarvainen, and Timo Lähivaara. Mathematical Modelling, Chapter Inverse Problems. **Springer**, 2016.

63. Timo Lähivaara, Nicholas F. Dudley Ward, Tomi Huttunen, Zara Rawlinson, and Jari P. Kaipio. Estimation of aquifer dimensions from seismic signals in the presence of material and source and model uncertainties. **Geophysical Journal International**, 200(3):1662-1675, 2015.
64. Petri Varvia, Timo Lähivaara, Petteri Packalen, Matti Maltamo, Timo Tokola, and Aku Seppänen. Uncertainty quantification in ALS-based species-specific growing stock volume estimation. **SilviLaser, France**, 2015.
65. Timo Lähivaara and Kati Niinimäki. Statistical inverse problem and numerical simulation related to electromagnetic wave propagation. **The 12th International Conference on Mathematical and Numerical Aspects of Waves Propagation (Waves 2015)**, Germany, 2015.
66. Timo Lähivaara, Nicholas F. Dudley Ward, Tomi Huttunen, Jari P. Kaipio, and Kati Niinimäki. Estimating pipeline location using ground-penetrating radar data in the presence of model uncertainties. **Inverse Problems**, 30(11):114006, 2014. (paper has been selected for inclusion in the Inverse Problems 2014 Highlights Collection)
67. Timo Lähivaara, Nicholas F. Dudley Ward, Tomi Huttunen, Janne Koponen, and Jari P. Kaipio. Estimation of aquifer dimensions from passive seismic signals with approximate wave propagation models. **Inverse Problems, Invited Insights article**, 2014.
68. Timo Lähivaara, Nicholas F. Dudley Ward, Tomi Huttunen, Janne Koponen, and Jari P. Kaipio. Estimation of aquifer dimensions from passive seismic signals with approximate wave propagation models. **Inverse Problems**, 30(1):015003, 2014.
69. Timo Lähivaara, Aku Seppänen, Jari P. Kaipio, Jari Vauhkonen, Lauri Korhonen, Timo Tokola, and Matti Maltamo. Bayesian approach to tree detection based on airborne laser scanning data. **IEEE Transactions on Geoscience and Remote Sensing**, 52(5):2690-2699, 2014.
70. Timo Lähivaara, Jari P. Kaipio, Nicholas F. Dudley Ward, and Tomi Huttunen. Simulation study on seismic monitoring of aquifers. **The 21st International Congress on Acoustics (ICA 2013)**, Canada, 2013.
71. Timo Lähivaara and Tomi Huttunen. High-order numerical methods for underwater acoustic scattering problems. **6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012)**, Austria, 2012.
72. Timo Lähivaara, Aku Seppänen, Jari P. Kaipio, Jari Vauhkonen, Lauri Korhonen, Timo Tokola, and Matti Maltamo. Bayesian approach to tree detection with airborne laser scanning. **IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2012)**, Germany, 2012.
73. Timo Lähivaara and Tomi Huttunen. Acoustic scattering from elastic object. **Journal of Structural Mechanics**, 45(1):34-44, 2012.
74. Simo-Pekka Simonaho, Timo Lähivaara, and Tomi Huttunen. Modeling of acoustic wave propagation in time-domain using the discontinuous Galerkin method - a comparison with measurements. **Applied Acoustics**, 73(2):173-183, 2012.
75. Timo Lähivaara and Tomi Huttunen. A non-uniform basis order for the discontinuous Galerkin method of the acoustic and elastic wave equations. **Applied Numerical Mathematics**, 61(4):473-486, 2011.

76. Timo Lähivaara and Tomi Huttunen. A non-uniform basis order for the discontinuous Galerkin method of the 3D dissipative wave equation with perfectly matched layer. **Journal of Computational Physics**, **229(13)**, 5144-5160, 2010.
77. Timo Lähivaara and Tomi Huttunen. Discontinuous Galerkin method for solving the 3D acoustic wave equation. **The 9th International Conference on Mathematical and Numerical Aspects of Waves Propagation (Waves 2009)**, France, 2009.
78. Timo Lähivaara, Tomi Huttunen, and Simo-Pekka Simonaho. Comparison of two full-wave models for a loudspeaker. **5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008)**, Italy, 2008.
79. Timo Lähivaara, Tomi Huttunen, and Simo-Pekka Simonaho. High-order parallel discontinuous Galerkin method for time-domain acoustic simulations. **156th Meeting of the Acoustical Society of America**, USA, 2008.
80. Timo Lähivaara, Matti Malinen, Jari P. Kaipio, and Tomi Huttunen. Computational aspects of the discontinuous Galerkin method for the wave equation. **Journal of Computational Acoustics**, **16(4)**:507-530, 2008.

B Non-refereed scientific articles

1. Ansh Desai, Timo Lähivaara, and Peter Monk. A Neural Network Enhanced Born Approximation for Inverse Scattering. **e-print available in arXiv**, 2025.
2. Mahnaz Khalili, Bojan Brodic, Peter Göransson, Suvi Heinonen, Jan S. Hesthaven, Antti Pasanen, Marko Vauhkonen, Rahul Yadav, and Timo Lähivaara. Monitoring of water volume in a porous reservoir using seismic data: Validation of a numerical model with a field experiment. **e-print available in arXiv**, 2024.
3. Mahnaz Khalili, Peter Göransson, Jan S. Hesthaven, Antti Pasanen, Marko Vauhkonen, Timo Lähivaara. A 3D Simulation Study for Monitoring Water Content in a Porous Storage. **84th EAGE Annual Conference & Exhibition**, Austria, 2023
4. Timo Lähivaara, Alireza Malehmir, Antti Pasanen, Leo Kärkkäinen, Janne M.J. Huttunen, Jan S. Hesthaven. Deep learning-based groundwater storage estimation from seismic data. **Conference Proceedings, Second EAGE Conference on Seismic Inversion**, 2022:1-5, 2022.
5. Hwan Goh, Timo Lähivaara, Tanja Tarvainen, Aki Pulkkinen, Owen Dillon, Ruanui Nicholson, and Jari Kaipio. Coupled Elastic-Acoustic Modelling for Quantitative Photoacoustic Tomography. **e-print available in arXiv**, 2019.
6. Jacques Cuenca, Laurent De Ryck, Peter Göransson, and Timo Lähivaara. Material parameter identification of coupled resonant systems using impedance tubes. **26th International Congress on Sound and Vibration**, Canada, 2019.
7. Timo Lähivaara, Teemu Luostari, and Tomi Huttunen. Huokoisen väliaineen materiaaaliparametrien arviointi tilastollisia menetelmiä hyödyntäen **Akustiikkapäivät**, Finland, 2017.
8. Ville Pulkki, Ilkka Huhtakallio, Timo Lähivaara. Tuulen vaikutus ihmisäänen säteilyyn. **Akustiikkapäivät**, Finland, 2017.
9. Timo Lähivaara and Nicholas F. Dudley Ward. High-order numerical methods for wave propagation in porous media. **Akustiikkapäivät**, Finland, 2015.

10. Timo Lähivaara, Jari P. Kaipio, Nicholas F. Dudley Ward, and Tomi Huttunen. Seisminen menetelmä pohjavesivarojen arviointiin. **Akustiikkapäivät, Finland, 2013.**
11. Timo Lähivaara, Jari P. Kaipio, Nicholas F. Dudley Ward, and Tomi Huttunen. Use of seismic data for monitoring aquifers. **4th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Greece, 2013.**
12. Timo Lähivaara and Tomi Huttunen. Akustisen aallon sironta elastisesta kappaleesta. **Mekaniikkapäivät, Finland, 2012.**
13. Timo Lähivaara and Tomi Huttunen. Epäjatkuva Galerkinin menetelmä elastiselle aaltoyhtälölle. **Akustiikkapäivät, Finland, 2009.**
14. Timo Lähivaara, Tomi Huttunen, and Heidi Niskanen. Elastisten aaltopulssien mallintaminen. **Mekaniikkapäivät, Finland, 2009.**
15. Timo Lähivaara, Tomi Huttunen, and Simo-Pekka Simonaho. Full-wave model for a loudspeaker. **Akustiikkapäivät, Finland, 2007.**

D Publications intended for professional communities

1. Timo Lähivaara. Pohjaveden määrää voidaan tulevaisuudessa arvioida entistä tarkemmin. **Saima, 2016.**
2. Timo Lähivaara. Seismic signals reveal groundwater reserves. **CSC – The Finnish IT Center For Science, 2014.**
3. Timo Lähivaara. Towards the sound. **CSC News, 2009.**
4. Timo Lähivaara. Mathematical modeling of wave propagation. **CSC News, 2009.**

E Publications intended for the general public

1. Timo Lähivaara. Puhtaan veden turvaaminen vaatii jatkossa roimasti kekseliäisyyttä. **Savon Sanomat, 2016.**

G Theses

1. Timo Lähivaara. Discontinuous Galerkin method for time-domain wave problems. **PhD thesis, University of Eastern Finland, 2010.**
2. Timo Lähivaara. Numerical methods for acoustical problems in time domain. **MSc thesis, University of Kuopio, 2005.**

H Patents and invention disclosures

1. Timo Lähivaara. Ilmanvaihtokanavien puhdistustarpeen arviointi akustisten mittausten avulla. **Invention disclosure, University of Eastern Finland, 2016.**

I Audiovisual material, ICT software

1. Timo Lähivaara. Estimation of volume of groundwater in an aquifer based on seismic measurements. YouTube video: <https://www.youtube.com/watch?v=h1Qua4LPSF0>, **2016**.
2. Timo Lähivaara and Rafael Vázquez. A Software package for the discretization of the wave equation in GeoPDEs (**geopdes acoustics**), **2011**.

Submitted manuscripts

1. Mikko Kukkonen, Mari Myllymäki, Timo Lähivaara, and Petteri Packalen. Implications of dissimilar geometries between training and population units in a three-dimensional deep learning-based forest inventory. **2025**.
2. Ansh Desai, Timo Lähivaara, and Peter Monk. A Neural Networks Enhanced Born Approximation for Inverse Scattering. **2025**.
3. Mahnaz Khalili, Bojan Brodic, Peter Göransson, Suvi Heinonen, Jan S. Hesthaven, Antti Pasanen, Marko Vauhkonen, Rahul Yadav, and Timo Lähivaara. Monitoring of water volume in a porous reservoir using seismic data: Validation of a numerical model with a field experiment. **2024**.
4. Andrea Porcheddu, Ville Kolehmainen, Timo Lähivaara, and Antti Lipponen. Machine learning data fusion for high spatio-temporal resolution PM2.5. **2024**.
5. Hanli Qiao, Mohammad Jooshaki, Massimo Rolle, Timo Lähivaara, Marko Vauhkonen, Tommi Kauppila, and Muhammad Muniruzzaman. Hidden reactive transport neural network: A physics- and chemistry-informed surrogate modeling approach and application to pyrite oxidation. **2024**.