

Ville Luoma
forskningskoordinator
Avdelningen för skogsvetenskaper
Laboratory of Forest Resources Management and Geo-information Science
Adresstyp: Postadress.
PL 27 (Latokartanonkaari 7)
00014
Finland
E-post: ville.luoma@helsinki.fi
Mobil: +358504773164
Telefon: +358294158402



Kvalifikationer

Educational science, University pedagogy, Teacher's separate pedagogical studies , Pedagogiska fakulteten
Tilldelningsdatum: 18 dec. 2023

Agriculture and Forestry, Doctor of Science (Forestry), Väitöskirja: Measuring tree growth using terrestrial laser scanning, Agrikultur- och forstvetenskapliga fakulteten
Tilldelningsdatum: 15 nov. 2022

Agriculture and forestry, Master of Science (Forestry, forest ecology and management), Agrikultur- och forstvetenskapliga fakulteten
Tilldelningsdatum: 13 nov. 2013

Anställning

forskningskoordinator
Avdelningen för skogsvetenskaper
Helsingfors universitet
Finland
6 maj 2024 → present

Laboratory of Forest Resources Management and Geo-information Science
Helsingfors universitet
Finland
1 jan. 2014 → present

Publikationer

Accuracy comparison of terrestrial and airborne laser scanning and manual measurements for stem curve-based growth measurements of individual trees

Soininen, V., Hyyppä, E., Muhojoki, J., Luoma, V., Kaartinen, H., Lehtomäki, M., Kukko, A. & Hyyppä, J., juni 2024, I: Science of Remote Sensing. 9, 100125.

Tree height and stem growth dynamics in a Scots pine dominated boreal forest

Yrttimaa, T., Junttila, S., Luoma, V., Pyörälä, J., Puttonen, E., Campos, M., Hölttä, T. & Vastaranta, M., mars 2024, I: Trees, forests and people. 15, 15 s., 100468.

Tree height and stem growth dynamics in a Scots pine dominated boreal forest

Yrttimaa, T., Junttila, S., Luoma, V., Pyörälä, J., Puttonen, E., Campos, M., Hölttä, T. & Vastaranta, M., mars 2024. 15 s.

A method for identifying and segmenting branches of Scots pine (*Pinus sylvestris* L.) trees using terrestrial laser scanning

Yrttimaa, T., Kankare, V., Luoma, V., Junttila, S., Saarinen, N., Calders, K., Holopainen, M., Hyyppä, J. & Vastaranta, M., 4 dec. 2023, I: Forestry. 15 s.

A New Approach for Feeding Multispectral Imagery into Convolutional Neural Networks Improved Classification of Seedlings

Imangholiloo, M., Luoma, V., Holopainen, M., Vastaranta, M., Makelainen, A., Koivumaki, N., Honkavaara, E. & Khoramshahi, E., nov. 2023, I: Remote Sensing. 15, 21, 27 s.

Individual tree segmentation and species classification using high-density close-range multispectral laser scanning data

Hakula, A., Ruoppa, L., Lehtomäki, M., Yu, X., Kukko, A., Kaartinen, H., Taher, J., Matikainen, L., Hyypä, E., Luoma, V., Holopainen, M., Kankare, V. & Hyypä, J., aug. 2023, I: ISPRS Open Journal of Photogrammetry and Remote Sensing. 9, 13 s., 100039.

Capturing seasonal radial growth of boreal trees with terrestrial laser scanning

Yrttimaa, T., Junttila, S., Luoma, V., Calders, K., Kankare, V., Saarinen, N., Kukko, A., Holopainen, M., Hyypä, J. & Vastaranta, M., 1 feb. 2023, I: Forest Ecology and Management. 529, 10 s.

Predicting Growth of Individual Trees Directly and Indirectly Using 20-Year Bitemporal Airborne Laser Scanning Point Cloud Data

Soininen, V., Kukko, A., Yu, X., Kaartinen, H., Luoma, V., Saikkonen, O., Holopainen, M., Matikainen, L., Lehtomaeki, M. & Hyypä, J., dec. 2022, I: Forests. 13, 12, 21 s.

Feasibility of Bi-Temporal Airborne Laser Scanning Data in Detecting Species-Specific Individual Tree Crown Growth of Boreal Forests

Poorazimy, M., Ronoud, G., Yu, X., Luoma, V., Hyypä, J., Saarinen, N., Kankare, V. & Vastaranta, M., okt. 2022, I: Remote Sensing. 14, 19, 17 s., 4845.

Measuring tree growth using terrestrial laser scanning

Luoma, V., okt. 2022, Helsinki: Finnish Society of Forest Science. 48 s.

Terrestrial Laser Scanning in Assessing the Effect of Different Thinning Treatments on the Competition of Scots Pine (*Pinus sylvestris* L.) Forests

Ronoud, G., Poorazimy, M., Yrttimaa, T., Luoma, V., Huuskonen, S., Hynynen, J., Hyypä, J., Saarinen, N., Kankare, V. & Vastaranta, M., okt. 2022, I: Remote Sensing. 14, 20, 18 s., 5196.

Exploring tree growth allometry using two-date terrestrial laser scanning

Yrttimaa, T., Luoma, V., Saarinen, N., Kankare, E., Junttila, S., Holopainen, M., Hyypä, J. & Vastaranta, M., 15 aug. 2022, I: Forest Ecology and Management. 518, 13 s., 120303.

Assessing Structural Complexity of Individual Scots Pine Trees by Comparing Terrestrial Laser Scanning and Photogrammetric Point Clouds

Tienaho, N., Yrttimaa, T., Kankare, V., Vastaranta, M., Luoma, V., Honkavaara, E., Koivumaki, N., Huuskonen, S., Hynynen, J., Holopainen, M., Hyypä, J. & Saarinen, N., aug. 2022, I: Forests. 13, 8, 19 s., 1305.

Effects of Stem Density on Crown Architecture of Scots Pine Trees

Saarinen, N., Kankare, V., Huuskonen, S., Hynynen, J., Bianchi, S., Yrttimaa, T., Luoma, V., Junttila, S., Holopainen, M., Hyypä, J. & Vastaranta, M., 9 mars 2022, I: Frontiers in plant science. 13, 14 s., 817792.

Crown shape and size of Scots pine affected by thinning?

Saarinen, N., Yrttimaa, T., Kankare, V., Luoma, V., Bianchi, S., Huuskonen, S., Hynynen, J., Holopainen, M., Hyypä, J. & Vastaranta, M., 1 dec. 2021, *Proceedings of the SilviLaser Conference 2021*. TU Wien Academic Press, s. 117–119 (Geowissenschaftliche Mitteilungen).

Examining Structural Complexity of Scots Pine Trees – A Comparison between Terrestrial Laser Scanning and Photogrammetric Point Clouds

Tienaho, N. M., Saarinen, N., Yrttimaa, T., Luoma, V., Honkavaara, E., Viljanen, N., Huuskonen, S. & Hynynen, J., 1 dec. 2021, *Proceedings of the SilviLaser Conference 2021*. TU Wien Academic Press, s. 13-15 (Geowissenschaftliche Mitteilungen).

Terrestrial Laser Scanning Reveal Connection Between Changes in Tree Stem Dimensions and Crown Structure

Yrttimaa, T., Luoma, V., Saarinen, N., Kankare, V., Junntila, S., Holopainen, M., Hyypä, J. & Vastaranta, M., 1 dec. 2021, *Proceedings of the SilviLaser Conference 2021*. TU Wien Academic Press, s. 176-178 3 s. (Geowissenschaftliche Mitteilungen).

Revealing Changes in the Stem Form and Volume Allocation in Diverse Boreal Forests Using Two-Date Terrestrial Laser Scanning

Luoma, V., Yrttimaa, T., Kankare, V., Saarinen, N., Pyöralä, J., Kukko, A., Kaartinen, H., Hyypä, J., Holopainen, M. & Vastaranta, M., juli 2021, I: *Forests*. 12, 7, 20 s., 835.

Understanding 3D structural complexity of individual Scots pine trees with different management history

Saarinen, N., Calders, K., Kankare, V., Yrttimaa, T., Junntila, S., Luoma, V., Huuskonen, S., Hynynen, J. & Verbeeck, H., mars 2021, I: *Ecology and Evolution*. 11, 6, s. 2561-2572 12 s.

Structural Changes in Boreal Forests Can Be Quantified Using Terrestrial Laser Scanning

Yrttimaa, T., Luoma, V., Saarinen, N., Kankare, V., Junntila, S., Holopainen, M., Hyypä, J. & Vastaranta, M., sep. 2020, I: *Remote Sensing*. 12, 17, s. 1-20 20 s., 2672.

Effect of canopy structure on the performance of tree mapping methods in urban parks

Tanhuanpää, T., Yu, X., Luoma, V., Saarinen, N., Raisio, J., Hyypä, J., Kumpula, T. & Holopainen, M., 23 aug. 2019, I: *Urban Forestry & Urban Greening*. 44, 12 s., 126441.

Detecting and characterizing downed dead wood using terrestrial laser scanning

Yrttimaa, T., Saarinen, N., Luoma, V., Tanhuanpää, T., Kankare, V., Liang, X., Hyypä, J., Holopainen, M. & Vastaranta, M., maj 2019, I: *ISPRS Journal of Photogrammetry and Remote Sensing*. 151, s. 76-90 15 s.

Examining Changes in Stem Taper and Volume Growth with Two-Date 3D Point Clouds

Luoma, V., Saarinen, N., Kankare, V., Tanhuanpää, T., Kaartinen, H., Kukko, A., Holopainen, M., Hyypä, J. & Vastaranta, M., maj 2019, I: *Forests*. 10, 5, 14 s., 382.

Assessing feasibility of the forest trafficability map for avoiding rutting - a case study

Kankare, V., Luoma, V., Saarinen, N., Peuhkurinen, J., Holopainen, M. & Vastaranta, M., 2019, I: *Silva Fennica*. 53, 3, 9 s., 10197.

International benchmarking of terrestrial laser scanning approaches for forest inventories: Part I: Objective, Datasets, Evaluation Criteria and Methods ((joint project of EuroSDR and ISPRS))

Liang, X., Hyypä, J., Kaartinen, H., Pyöralä, J., Lehtomäki, M., Holopainen, M., Kankare, V., Luoma, V., Saarinen, N., Chen, L. & Wang, Y., 2019, Vienna: Bundesamt für Eich- und Vermessungswesen. 29 s. (European Spatial Data Research. Official Publication; vol. 71, nr. 1)

Aboveground forest biomass derived using multiple dates of WorldView-2 stereo-imagery: quantifying the improvement in estimation accuracy

Vastaranta, M., Yu, X., Luoma, V., Karjalainen, M., Saarinen, N., Wulder, M. A., White, J. C., Persson, H. J., Hollaus, M., Yrttimaa, T., Holopainen, M. & Hyypä, J., 2 dec. 2018, I: *International Journal of Remote Sensing*. 39, 23, s. 8766-8783 18 s.

International benchmarking of terrestrial laser scanning approaches for forest inventories

Liang, X., Hyypä, J., Kaartinen, H., Lehtomäki, M., Pyöralä, J., Pfeifer, N., Holopainen, M., Brolly, G., Francesco, P., Hackenberg, J., Huang, H., Jo, H-W., Katoh, M., Liu, L., Mokroš, M., Morel, J., Olofsson, K., Poveda-Lopez, J., Trochta, J., Wang, D., & 11 andra Wang, J., Xi, Z., Yang, B., Zheng, G., Kankare, V., Luoma, V., Yu, X., Chen, L., Vastaranta, M., Saarinen, N. & Wang, Y., okt. 2018, I: *ISPRS Journal of Photogrammetry and Remote Sensing*. 144, s. 137-179 43 s.

Assessing Biodiversity in Boreal Forests with UAV-Based Photogrammetric Point Clouds and Hyperspectral Imaging

Saarinen, N., Vastaranta, M., Nasi, R., Rosnell, T., Hakala, T., Honkavaara, E., Wulder, M. A., Luoma, V., Tommaselli, A. M. G., Imai, N. N., Ribeiro, E. A. W., Guimaraes, R. B., Holopainen, M. & Hyypä, J., feb. 2018, I: *Remote Sensing*. 10, 2, 22 s., 338.

Airborne Laser Scanning Outperforms the Alternative 3D Techniques in Capturing Variation in Tree Height and Forest Density in Southern Boreal Forests

Vastaranta, M., Yrttimaa, T., Saarinen, N., Yu, X., Karjalainen, M., Nurminen, K., Karila, K., Kankare, V., Luoma, V., Pyörälä, J., Junttila, S., Tanhuanpää, T., Kaartinen, H., Kukko, A., Honkavaara, E., Jaakkola, A., Liang, X., Wang, Y., Vaaja, M., Hyyppä, H., & AndraKato, M., Wulder, M. A., Holopainen, M. & Hyyppä, J., 2018, I: *Baltic Forestry*. 24, 2, s. 268-277 10 s.

Assessing Precision in Conventional Field Measurements of Individual Tree Attributes

Luoma, V., Saarinen, N., Wulder, M. A., White, J. C., Vastaranta, M., Holopainen, M. & Hyyppä, J., feb. 2017, I: *Forests*. 8, 2, 16 s., 38.

Feasibility of Terrestrial laser scanning for collecting stem volume information from single trees

Saarinen, N., Kankare, V., Vastaranta, M., Luoma, V., Pyörälä, J., Tanhuanpää, T., Liang, X., Kaartinen, H., Kukko, A., Jaakkola, A., Yu, X., Holopainen, M. & Hyyppä, J., jan. 2017, I: *ISPRS Journal of Photogrammetry and Remote Sensing*. 123, s. 140-158 19 s.

Errors in the Short-Term Forest Resource Information Update

Luoma, V., Vastaranta, M., Eyvindson, K., Kankare, V., Saarinen, N., Holopainen, M. & Hyyppä, J., 2017, *The Rise of Big Spatial Data*. Ivan, I., Singleton, A., Horak, J. & Inspektor, T. (red.). Springer International Publishing AG, s. 155-166 12 s. (Lecture Notes in Geoinformation and Cartography).

UAV-based photogrammetric point clouds and hyperspectral imaging for mapping biodiversity indicators in boreal forests

Saarinen, N. P., Vastaranta, M. A., Näsi, R., Rosnell, T., Hakala, T., Honkavaara, E., Wulder, M. A., Luoma, V. V., Tommaselli, A., Imai, N., Werneck, E., Guimaraes, R., Holopainen, M. E. & Hyyppä, J., 2017, I: *The international archives of the photogrammetry, remote sensing and spatial information sciences*. XLII-3/W3, s. 171-175 5 s.

Allocating Tree Crown Pruning with ALS-data - A Case Study in the City of Helsinki

Luoma, V., Tanhuanpää, T., Holopainen, M., Vastaranta, M., Saarinen, N., Kankare, V. & Hyyppä, J., 2015, *2015 Joint Urban Remote Sensing Event (JURSE) : March 30, 2015 - April 1, 2015, Lausanne, Switzerland*. Piscataway: IEEE, 4 s.

Evaluation of a Smartphone App for Forest Sample Plot Measurements

Vastaranta, M., Latorre, E. G., Luoma, V., Saarinen, N., Holopainen, M. & Hyyppä, J., 2015, I: *Forests*. 6, 4, s. 1179-1194 16 s.

Aktivitetter

Detection of tree growth and changes in tree and forest structures by utilizing terrestrial laser scanning point clouds

Ville Luoma (!!Speaker)

6 sep. 2023

Detection of tree growth and changes in tree and forest structures by utilizing terrestrial laser scanning point clouds

Ville Luoma (!!Speaker)

30 aug. 2023

Measuring tree growth using terrestrial laser scanning

Ville Luoma (!!Speaker)

10 feb. 2023

Measuring Tree Growth by Utilizing Two Date Terrestrial Laser Scanning Point Clouds

Ville Luoma (!!Speaker)

27 jan. 2023

Possibilities of change detection of tree and forest attributes by combining terrestrial laser scanning based 3D point clouds with UAV data

Ville Luoma (!!Speaker)
19 mars 2020

Observing changes in stem form of individual trees by means of TLS-time series

Ville Luoma (!!Speaker)
10 okt. 2017

Observing changes in stem form of individual trees by means of TLS-time series

Ville Luoma (!!Speaker)
22 aug. 2017

Errors in the Short-Term Forest Resource Information Update

Ville Luoma (!!Speaker)
17 mars 2016

Priser

Vuoden opettaja

Luoma, Ville (!!Recipient), 28 apr. 2023

Projekt

MULTIRISK: Digital technologies, risk management solutions and tools for mitigating forest disturbances (MULTIRISK)

Holopainen, M., Blomqvist, M., Imangholiloo, M., Junttila, S., Luoma, V., O'Sullivan, H. J., Pehkonen, M. E. I., Pyörälä, J. & Virtanen, I. M.

Suomen Akatemia Projektilaskutus

01/01/2023 → 31/12/2025

Datauppsättning

Terrestrial Laser Scanning and Ground Truth Data for Characterizing Downed Dead Wood

Yrttimaa, T. (!!Data Manager), Saarinen, N. (Skapad av), Luoma, V. (!!Data Collector), Tanhuanpää, T. (Medverkande), Kankare, V. (Medverkande), Liang, X. (Medverkande), Hyyppä, J. (Ägare), Holopainen, M. (!!Funder) & Vastaranta, M. (Medverkande), Open Society Foundations (OSF), 28 feb. 2020

DOI: <https://doi.org/10.31219/osf.io/gz93a>