Live session at the IUFRO World Day (Talk)

Measuring and monitoring urban forests structure, function, and diversity using remote sensing

Division 6 – Social Aspects of Forests and Forestry – Unit 6.07.00

29 September 2021, 03:00 – 04:30 UTC

ⱷ Christchurch, New Zealand (on the IUFRO World Day Map)

To join us, please register for the IUFRO World Day: Registration

You will find us at the host city on the Interactive Map

ABSTRACT

This session contains a series of brief presentations on how researchers or practitioners have used remote sensing approaches for measuring and monitoring urban forests. This includes describing biophysical aspects of trees/forests from unpiloted aerial vehicles, aircraft, or satellites using optical imagery, lidar or radar. Such methods are effective at a variety of spatial scales (from tree to forest) and for a variety of end-uses, including inventory, ecosystem service modeling, biosecurity monitoring, and biodiversity description. Delegates will be inspired by the manifold ways in which remote sensing can improve our understanding of urban forests.

- Urban Forestry
- Forest Assessment
- Forest Inventories
- Forest Mensuration
- Remote sensing

SPEAKERS

Name	Mitchell Bonney	
Affiliation	University of Toronto	
Biography	Mitchell is entering the final year of his PhD at University of Toronto – Mississauga. His current research focuses on using long-term remote sensing data (e.g., aerial photography, Landsat) and ground validation (e.g., dendrochronology, hemispherical photographs, historical imagery interpretation) to monitor forest change in a suburbanizing landscape. Mitchell completed his MSc at Queen's University, where he used Landsat time-series to quantify shrub expansion due to the climate change in northern Canada. Mitchell has published four first-author papers on these and other topics (e.g., Australian fires) where long-term remote sensing time-series can answer important questions about our changing landscapes.	
Twitter	@zzmitch	

Name	Anett Fekete	
Affiliation	Eötvös Loránd University	
Biography	Anett is a third-year PhD student at Eötvös Loránd University, Budapest, Hungary. Her research mainly focuses on source code comprehension and static analysis, but she is also interested in geoinformatics. Her master thesis was centered around the segmentation of trees in large urban areas using airborne LiDAR.	

Name	Dr. Vincenzo Giannico	
Affiliation	University of Bari	
Biography	Vincenzo Giannico PhD, is a Postdoctoral researcher at the Department of Agriculture and Environmental Sciences (DISAAT), University of Bari. His research interests focus on quantification and evaluation of ecosystem services provided by urban and peri-urban forest environments, how these are evolving in time and space and how these impacts on human well-being using advanced remote sensing techniques.	

Name	Dr. Justin Morgenroth
Affiliation	University of Canterbury
Biography	Justin is an Associate Professor at the New Zealand School of Forestry at the University of Canterbury. He's interested in understanding urban trees and the critical roles they play in cities around the world. To that end, he researches the growth, function, management, and ecosystem services of trees in urban environments. He works extensively with remote sensing or earth observation data and techniques, including lidar, as well as aerial and satellite imagery. He is a former Chair of the International Society of Arboriculture's Science and Research Committee, an editor for numerous journals, and has published more than 60 scientific articles.
Twitter	@jamorgenroth

Name	Sophie Nitoslawski
Affiliation	University of British Columbia
Biography	Sophie Nitoslawski is a PhD Candidate in urban forestry at the University of British Columbia, and is passionate about finding ways to better integrate trees and green infrastructure into the fabric of our cities. Her research centers on the intersection of smart cities and urban forest management, and she works with both private- and public-sector partners to develop digital-based monitoring and management systems. In addition to her PhD work, Sophie is involved in teaching various urban forestry and sustainability courses at UBC, and is currently a member of the International Society of Arboriculture (ISA) Science and Research Committee.
Twitter	@sophienito

Name	Dr. Dan Richards
Affiliation	Manaaki Whenua | Landcare Research
Biography	Dan Richards is a researcher at Manaaki Whenua – Landcare Research, New Zealand. His work looks at how ecosystems provide benefits to people, particularly focusing on the role of trees in cities. Through better understanding the benefits of urban nature, he hopes to inform urban planning to design cities that are safer, more livable, and resilient to future climate change. He has worked previously in Europe and Southeast Asia, and has published over 40 peer-reviewed papers.
Twitter	@DanRRichards

Name	Dr. John Roberts
Affiliation	University of Florida
Biography	John is an Urban Horticulture Extension Agent for the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) for Orange County. He researched biogeochemical ecosystem services in urban forests during his master's. He completed his PhD through the University of Florida on the application of remote sensing data, with particular regard toward close-range photogrammetry, for street tree management and inventory. His current position emphasizes science communication and education geared toward the general public.

Name	Dr. Topi Tanhuanpää
Affiliation	University of Helsinki
Biography	Tanhuanpää finished his PhD in the Center of Excellence in Laser Scanning Research (CoE-LaSR) in 2016, specializing in monitoring of urban trees and forests. Since then, he has been working with various EO techniques in mapping traditional forest attributes and biodiversity indicators for both urban and rural forests. Tanhuanpää's current position in the University of Eastern Finland (UEF) focuses on mapping forest disturbances using historical aerial image time series. He is also involved in GreenPlace project in the University of Turku (UTU) aiming at mapping the wellbeing benefits of urban green infrastructures.
Twitter	@TopiTanhuanpaa

Name	Bhuban Timilsina
Affiliation	University of Melbourne
Biography	I am Bhuban Timalsina. I have a background in forest management and ecosystem conservation. I have completed my master degree in Forest Ecosystem Science from the University of Melbourne with first-class honours (H1). I have around 8 years of experience in forest management and biodiversity conservation in Nepal as a forest ranger and forest officer from the field offices to the Ministry of Forests and Environment, Nepal. I have also worked as a research assistant in an urban ecology project with Green Infrastructure Group, University of Melbourne. Currently involved with forest dynamic group, University of Melbourne.

Name	Dr. Rubén Valbuena
Affiliation	Bangor University
Biography	Rubén Valbuena is Lecturer in Forest Science at Bangor University, UK. His current research focus is devoted to using forest information for providing a value to environmental assets, mainly using remote sensing data for its great potential for analysing structural and morphological traits of ecosystems. During the last decade Dr Valbuena has pioneered adaptations of methods based on Lorenz curves and Gini coefficient to forest science and remote sensing, a work that was awarded with a IUFRO award. Dr Valbuena holds a DSc degree from the University of Eastern Finland and a PhD from the Technological University of Madrid (Spain), and his previous work experience also includes the University of Cambridge (UK), UN Environment – World Conservation Monitoring Centre, European Forest Institute and the Forest Research Agency of the UK Forestry Commission.
Twitter	@rubenvalpue

Name	Dr. Jun Yang
Affiliation	Tsinghua University
Biography	Dr. Jun Yang is a Professor in the Department of Earth System Science at Tsinghua University, China. His specific interests include urban ecology, urban forestry, and ecological remote sensing. He has published more than 100 scientific papers. He serves as an associated editor for Urban Forestry & Urban Greening, and serves on the editorial board of Agricultural and Forest Meteorology, Frontier in Sustainable Cities, Biodiversity, Landscape Architecture, and China Urban Forestry. He was a member of the Science and Research Committee of the International Society of Arboriculture between 2010 and 2013.

Name	Haotian (Joe) Zhao
Affiliation	University of Canterbury/Auckland Council
Biography	I am a first-year Ph.D. Student in the School of Forestry, University of Canterbury. My research interests lie in the fields of remote sensing, deep learning, and urban forestry. I am also working at Auckland Council as a Geospatial Specialist. During my tenure, I provided a wide range of spatial analysis to my customers and contributed to several remote sensing projects from consultation to delivery of the product.

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