

**10th IUFRO Wind and Trees Conference  
20-23 June 2023 Castelfranco Veneto Italy**



<b>Tuesday, 20 June</b>			
<b>Start</b>	<b>End</b>	<b>Speaker</b>	<b>Talk</b>
8:45	9:00	Emanuele Lingua Barry Gardiner	Welcome and Introduction to IUFRO
<b>Tree Acclimation and Adaptation to Wind</b>			
9:00	9:15	Toby Jackson	The ecological role of chronic wind exposure in a tropical forest
9:15	9:30	David W. MacFarlane	Differences in bark versus wood properties across tree species reflects evolved constraints in mechanical stability and adaptation to diverse environmental stressors.
9:30	9:45	Aland H. Y. Chan	Susceptibility of wet subtropical forests to extreme winds during tropical cyclones
9:45	10:00	Thiéry Constant	Modelling approach to tackle the impact of days with strong wind and water stress occurrence on the growth rate of European beech poles in a forest stand
10:00	10:15	Andris Seipulis	Regional differences of Scots pine in adaptation to wind climate
10:15	10:30	Questions and Discussion	
<b>10:30</b>	<b>11:00</b>	<b>Coffee Break</b>	
11:00	11:15	Maximiliano Costa	Vulnerability assessment to wind damages in a protective forest stand in the Alps
11:15	11:30	Gefri Indra Hutabarat	Parameterization and validation of the ForestGALES model to determine the critical wind speed for damage of different Eucalyptus clones for tree improvement selection
11:30	11:45	Ebba Dellwik	On the quantification of the maximum wind-induced drag on open-grown trees
11:45	12:00	Shivam Raj Singh	Biomechanical properties of surface-exposed woody tree roots
12:00	12:15	Amanda Bunce	Impacts of a silvicultural thinning on the dynamic characteristics of residual trees in a mixed deciduous roadside forest in the north-eastern U.S.
12:15	12:30	Questions and Discussion	

<b>12:30</b>	<b>14:00</b>	<b>Lunch</b>	
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<b>Flash Talks</b>			
<b>Start</b>	<b>End</b>	<b>Speaker</b>	<b>Talk</b>
14:00	14:07	Larsen W. McBride	The influence of seasons and an extreme wind event on a professional tree risk assessment in Wisconsin, USA
14:08	14:15	Kristiina Palm	Tree mortality following wind disturbance - legacy of survivors
14:16	14:23	Frank Rinn	Why VTA and SIA are not suitable for safety evaluation of defective mature urban tree stems
14:24	14:33	Helen Alina Pabst	Unlocking the Potential of High-Resolution Tree Models in Wind Simulations
14:34	14:41	Julian Halil	Wind Stress Effects on Wetland Trees
14:42	14:49	Lorenzo Faes	Assessment of the changes in protective effect against rockfalls and shallow landslides in windthrown areas
14:50	14:57	Ignacio J. Diaz- Maroto	Effect of the disturbances caused by climate change in the natural deciduous forests of Eastern Galician Mountains
14:58	15:05	Tristan AP Allerton	Short-term physiological responses to hurricane-induced defoliation in Puerto Rican dry forest
15:06	15:13	Nicholas Cranmer	Characterizing relationships between tree biomechanics and 3D tree crown structural characteristics and assessing effects of drought and management
15:14	15:21	Tom Locatelli	Use of fgr library for calculating wind damage risk to trees and forest stands
15:22	15:29	Jiaojun Zhu	Comparison of wind regimes among three forest stands over complex terrains by using Qingyuan-Ker Towers
15:30	15:38	Free	
<b>15:40</b>	<b>16:10</b>	<b>Coffee Break</b>	

**Tuesday, 20 June continued**

**Posters**

Start	End	Speaker	Talk
16:10	16:30	Each speaker to present 1 slide on their poster followed by poster presentations	
16:30	17:30	<ol style="list-style-type: none"> <li>1. Sven Kolbe</li> <li>2. Ilaria Incolli</li> <li>3. Francesco Zanotto</li> <li>4. Frederik Kammel</li> <li>5. Helen Alina Pabst</li> <li>6. Barbora Vojácková</li> <li>7. Jan Tippner</li> <li>8. Yi-Ying Chen</li> <li>9. Lorenzo Faes</li> <li>10. Frank Rinn</li> <li>11. Yamuna Giambastiani</li> <li>12. Tian Gao</li> </ol>	<ol style="list-style-type: none"> <li>1. Using air pressure fluctuations for wind load estimation</li> <li>2. Measurement of critical tree sway thresholds to determine the need for visual and instrumental monitoring to prevent the tree fall hazard in the urban environment</li> <li>3. Estimating the fundamental tree sway frequency. A test monitoring over a year</li> <li>4. Using a multi-camera system for capturing the of tree streamlining in wind</li> <li>5. Unleashing the power of point cloud data: detailed reconstruction of tree geometry for numerical simulations of wind-tree interaction</li> <li>6. Wind loading of a branch: numerical analysis of single- and multi-point mechanical loading</li> <li>7. Numerical sensitivity analysis of tree dynamic response in frequency domain</li> <li>8. Tropical cyclones facilitate recovery of forest leaf area from dry spells in East Asia</li> <li>9. Multi-approach analysis for the management of post-disturbance landslide phenomena: results and outlooks from VAIAland project within the Belluno province (NE - Italy)</li> <li>10. Critical analysis of windload calculations based on pictures of mature urban trees</li> <li>11. Web scraping technology for a dynamics analysis of tree crown streamlining in relationships with wind and meteorological data</li> <li>12. Application analysis of the wind equation for vertical profile over forest complex terrains</li> </ol>

17:30	18:30	<b>Ice Breaker</b>	
19:30		<b>Dinner</b>	

<b>Wednesday, 21 June</b>			
<b>Workshops 1</b>			
<b>Start</b>	<b>End</b>	<b>Speaker</b>	<b>Talk</b>
09:00	10:30	Luca Marchi	Tree pulling methodologies
09:00	10:30	Peter Zubkov	Use of remote sensing in wind damage studies
<b>10:30</b>	<b>11:00</b>	<b>Coffee Break</b>	
<b>Workshops 2</b>			
11:00	12:30	Tom Locatelli	ForestGALES R library <i>fgr</i>
11:00	12:30	Valerio Giuffrida	Use of machine-learning in ecological studies
<b>12:30</b>	<b>14:00</b>	<b>Lunch</b>	
<b>Case Studies/Risk Analysis</b>			
<b>Start</b>	<b>End</b>	<b>Speaker</b>	<b>Talk</b>
14:00	14:15	Frank Rinn	Allometric self-referencing for safety evaluation of mature urban trees
14:15	14:30	Regina Márcia Longo	Influence of the environmental quality of urban arboration on the fall of tree due to wind action in tropical regions
14:30	14:45	Stefan Reder	Detection and quantification of windthrown tree stems on UAV-orthomosaics
14:45	15:00	Barry Gardiner	Predicting the risk of treefall onto train lines
15:00	15:15	Stadelmann Catrin	Calibration of ForestGALES for German forests
15:15	15:30	Kirti Bajpai	Utilization of wind risk model to maximise Eucalyptus and Acacia crassicaarpa plantation productivity in Sumatra Indonesia
<b>15:30</b>	<b>16:00</b>	<b>Coffee Break</b>	
16:00	16:15	Emilis Armoška	Wood decay and Norway spruce vulnerability to wind inflicted damage in monospecific and mixed stands
16:15	16:30	Oskars Krisans	Insight into the susceptibility to storms of commercial tree species of the Eastern Baltic region: results of static tree-pulling tests in Latvia
16:30	16:45	Janis Donis	Incorporating the effects of storms into the stand growth model: case study Latvia
16:45	17:00	Kristjan Ait	Post-storm spread of European spruce bark beetle infestations at hemiboreal forests and subsequent forest regeneration
17:00	17:15	Tommaso Baggio	Assessing wind-disturbance of mountain forests in a climate change context: the RESILIENCE project
17:15	17:30	Questions and Discussion	
<b>17:30</b>	<b>17:45</b>	<b>Wrap up</b>	
<b>19:30</b>		<b>Conference Dinner at Hotel Fior</b>	

**Thursday, 22 June**Joint with IEFC Annual General Assembly <https://www.plantedforests.org/event/iefc-general-assembly/>**Climate Resistant and Resilient Forests**

Start	End	Speaker	Talk
9:00	9:15	Mart-Jan Schelhaas	Challenges of including wind disturbance in a high-resolution forest resource model at the European scale.
9:15	9:30	Ignacio J. Diaz-Maroto	Forest dynamics in mountain oak forests of north-western Spain: resilience and tree acclimation in a scenario of forest area rise
9:30	9:45	Davide Marangon	Forest regeneration after windstorm: from natural regeneration dynamics to restoration practices in north-easter Italian Alps
9:45	10:00	Zachara Tadeusz	Forest regeneration after hurricane – how to build the stable forest?
10:00	10:15	Floortje Vodde	Restoration potential of post-windthrow forests by natural regeneration – experiences from protected areas in Estonia
10:15	10:30	Ryan Klein	The urban forest hurricane recovery program
<b>10:30</b>	<b>11:00</b>	<b>Coffee Break</b>	
11:00	11:15	Markku Larjavaara	Theoretical and evolutionary perspective on how climate change potentially influences wind damage on trees
11:15	11:30	Natalie Piazza	Reducing forest carbon vulnerability to windthrow through climate-smart management
11:30	11:45	Line Grottian	Combining storm damage modeling and tree growth modeling
11:45	12:00	Peter Zubkov	Wind damage detection in Nordic boreal forests by 3D reconstruction of very high-resolution optical satellite imagery
12:00	12:15	Morgane Merlin	Mapping wind vulnerability in Norwegian forests under selected management scenarios with ForestGales
12:15	12:30	Rike Lorenz	Impacts of extreme wind speeds and other factors on tree fall alongside railway lines
12:30	12:45	Questions and Discussion	

**12:45**   **14:00**   **Lunch****Wind Damage Processes**Parallel session with IEFC AGA <https://www.plantedforests.org/event/iefc-general-assembly/>

Start	End	Speaker	Talk
14:00	14:15	Antonio Montagnoli	Root adaptation to wind and slope: case studies from western US ( <i>Pinus ponderosa</i> ) and Mongolian steppe ( <i>Ulmus pumila</i> )
14:15	14:30	Raul Batista Araujo de Sousa	Strength anisotropy of 3D printed root analogues for physical modelling of tree uprooting
14:30	14:45	Yinhan Liu	How small is not too small? An investigation of the scale effect on root–soil mechanical interaction
14:45	15:00	Jun Zhu	A novel root–soil mechanical interaction model to simulate tree up-rooting and overturning problems
15:00	15:15	Valentino Cristini	Incipient decay in Beech and Linden: an interspecific analysis
15:15	15:30	Tomoyuki Abe	Comparison of root resistance to uprooting between soil types: A case study for Japanese Larch forests in Hokkaido Japan
<b>15:30</b>	<b>16:00</b>	<b>Coffee Break</b>	
16:00	16:15	Mahtab Shiravi	Static and dynamic characterization of a tree response to the wind action
16:15	16:30	Dirk Schindler	Wind-induced tree response consists not only of bending vibrations – there are also torsional vibrations
16:30	16:45	Sven Kolbe	Excessive monitoring of wind-induced tree response
16:45	17:00	Kana Kamimura	Dynamic behavior of trees during 1.5-year observation
17:00	17:15	Skip J. Van Bloem	Wind motion in understudied coastal forests
17:15	17:30	Questions and Discussion	

**17:40**   **18:30**   **Round table discussion on manging forests against risk (IUFRO & IEFC)****19:30**   **Dinner**

**Friday, 23 June**

**Field Visit to Asiago**

Start	End	
8:00	18:30	Field visit to Asiago Forest

18:30	19:00	<i>End of Conference and Plans for next Conference</i>
19:30		<i>Dinner</i>

**Saturday, 24 June to Sunday 25 June**

**Post-Conference Tour**

Start	End	
24 June Early	25 June Late	Visit to Dolomite Mountains (staying at hotel in Dolomites for 1 night)