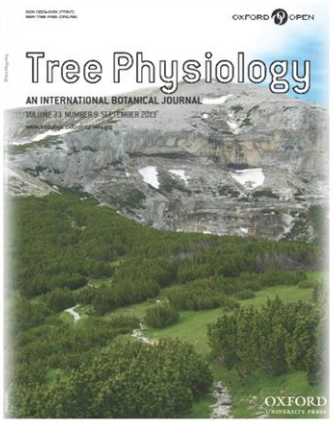
RÉSEAU MiDi

LE STUDIUM
Loire Valley
Institute for Advanced Studies

Guillaume Charrier*
& Thierry Ameglio,
INRAE, UMR PIAF, France
*speaker

September 23
15H
CET/Paris time
On line

LIA FORESTIA
web seminars round 2022
#7



HOW TO MAKE TREES TALK ABOUT THEIR FROST RESISTANCE?

ABSTRACT :

Frost stress is one of the most important limiting factors in the ecological distribution and production of tree species, especially at high elevation and latitude. Assessment of frost risk is therefore critical for forestry, fruit production, and horticulture. Frost risk is substantial when the hazard (i.e. exposure to damaging freezing temperatures) exceeds the vulnerability (i.e. frost sensitivity). Frost affects both living cells and dead xylem elements and alters their hydraulic function by inducing embolism. The authors developed methods (LT50, ultrasonic acoustic emission and high resolution dendrometer measurements) to better the effect of frost in different tree species and growth forms and its relevance to plant life at high elevation but also to improve knowledge on frost tolerance and plant resilience in general.

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Short Curriculum Vitae :

Guillaume Charrier is a Researcher at INRAE Clermont-Ferrand, France. He is a plant ecophysiologist and aims to assess the risks associated with abiotic stresses and how they affect the distribution of plant species. To estimate the risk (i.e. a high probability of exposure on a vulnerable plant), he develops an integrative biology approach at the plant level, essentially, and study in parallel different processes (carbon metabolism, water regulation) and compartments (e.g. hydraulic system, living cells, meristems) involved in the vulnerability to these stresses.

Short Curriculum Vitae :

Thierry Améglio is a Researcher in the same INRAE unit. His work focuses on the vulnerability of trees to the constraints of winter and freezing temperatures, but also to multiple and recurrent constraints, in particular hydric and thermal constraints in forests, in productive agro-systems and for city trees. In order to monitor in real time these multiple constraints of the tree in various environments and in treeline particularly, I have developed the PépiPIAF system for continuous monitoring of the diameter variations of a tree and to detect freeze events and frost damages.

FREE WEBINAR, REGISTRATION REQUIRED

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