

The ascent of sap and xylem vessel (dis)content: 4 centuries of debate

POUR
TOUS!

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Amphithéâtre SOLEIL

The mechanism of sap ascent in trees and the content of xylem vessels have been the subject of intense debates over the age. Trees are capable of rapidly transporting water to leaves by a transport system that relies on water sustaining a tensile force. However, this transport mechanism comes with its own set of problems, most notably that water under tension is in a metastable state and prone to embolism. In the first part of my talk I will put this debate into an historical perspective. More recently, a lot of studies had concluded that plants and trees seemed to be highly vulnerable to embolism, leading to a high level of xylem embolism, but with recovery on a daily basis. However, recent advances in plant hydraulics have suggested that, contrary to what was previously believed, embolism and repair may be far from routine in trees. Finally, I will discuss the validity of the current destructive standard techniques to measure embolism resistance in trees and compare then to direct observations of embolism on intact plants performed using synchrotron-based X-ray microCT, a noninvasive imaging technique.



Vitis vinifera Grew (1674)



Ce séminaire sera suivi d'une pause café

Formalités d'entrée : accès libre dans l'amphi du pavillon d'Accueil.

Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès)

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