

Nicolas Martin,
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On line

LIA FORESTIA
web seminars round
2022

#5

CLIMATE CHANGE EFFECTS ON FORESTS : A PLANT HYDRAULIC PERSPECTIVE OF ISSUES AND SOLUTIONS

ABSTRACT :

Forests are at the cross road of multiple socio-ecological stakes including energy and material autonomy, carbon sequestration, biodiversity conservation whilst at the same time they are deeply impaired by climate change. In particular, increasing atmospheric and soil drought are responsible for an increasing trend in tree mortality, forest disturbances (diebacks, pathogen attacks and wildfires). The field of plant hydraulic offers a conceptual and formal basis to quantify climate impacts on trees physiology, derive consequences on forest disturbances and assess possible solutions for adaptation. In this talk, I will present how plant hydraulic measurements can be combined with the recent plant hydraulic model SurEau, to help anticipate global changes outcome on forests and evaluate solutions for forest adaptation.

Short Curriculum Vitae :

Nicolas Martin is a Researcher at INRAE Avignon, France. His work focuses on how tree and forest respond to drought and heatwaves. More specifically, he works on the physiological mechanisms involved in water transport, to understand and model plant hydraulic failure and desiccation. He integrates traits from lab measurements, inventory and remote-sensing data, into mechanistic model to anticipate forest vulnerability to climate change and also to provide solutions for adaptation. He develops the plant hydraulic models SurEau and he is co-PI of the Font-Blanche ICOS site.

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