



Synergetic use of sensors and tree models to better understand the forests of the future

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Climate change is one of the environmental grand challenges, but its impact on tree functioning has not yet been fully disentangled. This calls for comprehensive tree monitoring frameworks that greatly improve our ability to understand how trees respond to climatic changes.

Sensors on trees are able to continuously track a series of metrics, turning the tree into a biological indicator. The result is instant information on tree functioning. By linking data from these monitoring systems to data from laboratory experiments and process-based tree models, new mechanisms can be found, and hypotheses and impacts tested.

In this talk, it will be illustrated how tree monitoring and modelling has successfully been used as a tool to advance our scientific knowledge on how trees in contrasting environments respond to (hotter) droughts, and how increasing atmospheric carbon dioxide may affect a tree's vulnerability to drought-induced cavitation.