

Séminaire METIS

Intervenant : Benjamin Mary

Date : 12 novembre 2021 – 12h

Lieu : <https://us02web.zoom.us/j/89530538303>

Title: **Geophysical Imaging of the Root Zone: challenging but still worth a try!**

Abstract:

The use of non-invasive geophysical methods has been demonstrated to be of high value in root zone characterization (Cassiani et al., 2021). The potential for further development of these methods is very large and may provide indispensable information for understanding and modeling the Earth Critical Zone (ECZ) processes. This talk aims to offer some thoughts about the potential of the geoelectrical methods to monitor the root systems supported by numerical and experimental activities. The results obtained during the 2 first years of my MSCA were mainly conducted in the laboratory within a rhizotron (see fig. below) as a tool to capture and control parameters driven roots activity. In a short side note, I will expose how I conducted my research remotely during the pandemic by retargeting lab activities to modeling ones and by developing open-source tools for agro-geophysical dataset reuse.

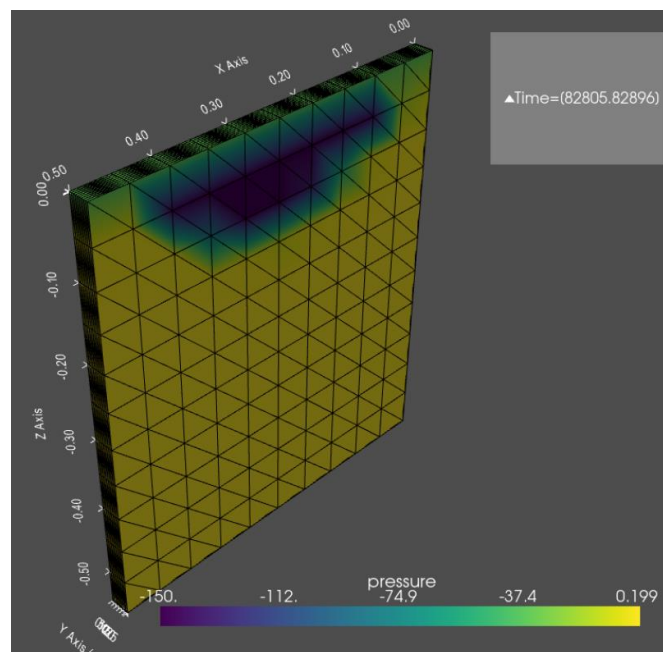


Figure 1: Pressure head at the end time of the simulation mimicking a Partial Root Zone Drying experiment in a rhizotron (obtained from the CATHY model) showing the effect of the distributed root area.

References

G. Cassiani, B. Mary, J. Boaga, I. Barone, and V. Ivan. Geophysical Imaging of the Root Zone: Methods, Implications and Outlook. In *NSG2021 27th European Meeting of Environmental and Engineering Geophysics*. European Association of Geoscientists Engineers, 2021.