UCD Soil Modelling Group

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The Soil Modelling Group in UCD expects to have two funded positions available for a September 2024 start, to work in an interdisciplinary team based in the UCD **Earth Institute**.

Project 1 – Postdoc for 2.5 years

- Developing a reduced-order model based on the Richards Equation to predict soil-moisture deficit on the farm scale.
- Mathematical modelling and computational skills essential.
- Experience working with data sets from meteorology, hydrology, etc. desirable.
- Deliverable: to implement the model into a national forecast model.

Project 2 – PhD student for 4 years

- Developing improved soil-hydraulic functions to improve the accuracy of Richards Equation models.
- CFD of fluid flow in porous media, using OpenFOAM
- Mesh generation of porous media using X-ray CT scanning from soil-core samples.
- OpenFoam experience not essential – a learning mindset and a strong knowledge of Computational Mathematics fundamentals are enough!

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