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Type: **Poster Presentation**

## **Experimental studies of slow drainage in porous media: Effect of the randomness of the porous medium on the fluid flow**

*Thursday, 25 May 2023 15:30 (1h 30m)*

Two Phase flows are used in several fundamental and practical applications. For many applications, it is crucial to understand the physics of multiphase flow under the effect of the capillary, gravitational, and viscous fields [1]. Here, I will demonstrate experimentally how pore disorder affects fluid displacement. I am investigating the drainage of the liquid in porous media and studying the influence of the randomness of the 3D-printed porous medium structure on the fluid front. My experimental setup allows us to control the gravitational field precisely, and I can thus study the relative effect of the hydrostatic pressure field and the capillary fluctuation. This work offers a better understanding of the impact of the pore-scale disorder on flow behaviors in the porous medium.

### **Participation**

In-Person

### **References**

Vincent-Dospital T, Moura M, Toussaint R, Måløy KJ. Stable and unstable capillary fingering in porous media with a gradient in grain size. *Communications Physics*. 2022;5(1):306.

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### **Energy Transition Focused Abstracts**

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