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Pore-scale analysis of dynamics of two-phase flow in porous media

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D202 Seminar room, School of Engineering, 2nd Floor

Abstract: Continuum-scale theories of flow and transport in porous media are founded based on assumptions and simplifications which do not necessarily hold under all dynamic and boundary conditions. For example, important characteristic curves of multiphase flow such as capillary pressure curve, relative permeability, and capillary desaturation curves are all obtained under very specific flow conditions. Capillary pressure curve is usually measured under equilibrium conditions where there is no flow in the system, or relative permeability curves are obtained under steady-state conditions. One can correctly expect that under transient conditions, you may get different characteristic curves compared to the conventional capillary pressure-saturation or relative permeability-saturation curves. This presentation will cover an overview of pore-network modelling and micromodel experiments dealing with understanding of capillarity in porous media under equilibrium and non-equilibrium conditions.

More info: http://www2.warwick.ac.uk/fac/sci/wcpm/seminars

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