

Abstract Submitted
for the DFD17 Meeting of
The American Physical Society

Thin film dynamics and its effect on two phase flow in porous media YANIV EDERY, Harvard univesity, STEFFEN BERG, Shell Global Solutions International, DAVID WEITZ, Harvard univesity — We show with confocal microscopy that thin films for both imbibition and drainage serve as conduit to seemingly isolated oil ganglia. Interfacial drag forces on these thin films move fluid from one ganglion to the other leading to destabilization of capillary forces over long-time scales. Using unique experimental setup, we quantify the effect of thin film flow between ganglia. This shows that the physics of two phase flow in porous media is far richer than geometry coupled with capillary forces alone.

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Date submitted: 02 Aug 2017

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