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## Pore scale two-phase simulation of viscous fingering of non-Newtonian fluids

Thursday, 3 June 2021 19:45 (15 minutes)

The direct numerical simulation of non-Newtonian fluids (modelled using shear stress-dependent Meter model) displacing oil in 3D Mt. Simon sandstone and 2D porous medium were conducted on heterogeneous media, and over a range of wettabilities (strong imbibition to strong drainage), capillary numbers and viscosity ratios. This study suggests that, compared to water flooding, viscous fingering can persist or be suppressed depending on the heterogeneity of porous media. It is very important to account for the microscale heterogeneity of porous media to design polymer solution injection.

### Time Block Preference

Time Block A (09:00-12:00 CET)

### References

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**Session Classification:** MS21

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