
Contribution ID: **702** Type: **Poster Presentation**

# Pore-scale hysteresis and Relative Permeabilities in Edwards Brown Dolomite

*Thursday, 25 May 2023 10:45 (1h 30m)*

Carbon dioxide storage in subsurface formations is a promising technology for mitigating climate change, but a good understanding of the flow behaviour in targeted reservoirs is crucial. Heterogeneities at various scales can significantly impact flow behaviour, especially in carbonate reservoirs, which contain a large portion of the world's hydrocarbon reserves. In this study, we used an experimental method to examine hysteresis, heterogeneity, and relative permeabilities in multiphase flow in Edwards Brown dolomite. The experiment was conducted on a water-wet sample using brine (20% KI) and oil (decane) at a resolution of 5.6 µm during steady-state drainage and imbibition cycles. Our goal is to describe the effect of heterogeneities on the fluid behaviour, saturation changes, and residual trapping to improve the upscaling from the pore scale to the core scale to better represent the underlying pore-scale processes at the Darcy scale in a consistent way.

## Participation

In-Person

## References

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**Session Classification:** Poster

**Track Classification:** (MS01) Porous Media for a Green World: Energy & Climate