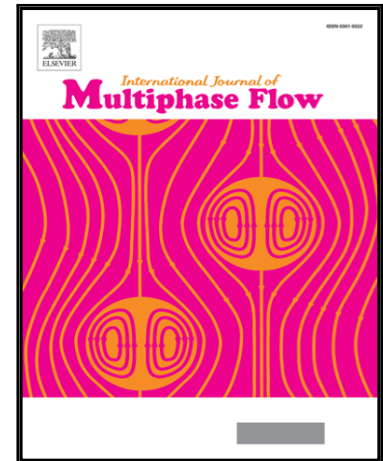


## Accepted Manuscript

Flow of emulsion drops through a constricted microcapillary channel

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PII: S0301-9322(17)30489-5  
DOI: [10.1016/j.ijmultiphaseflow.2018.02.015](https://doi.org/10.1016/j.ijmultiphaseflow.2018.02.015)  
Reference: IJMF 2748



To appear in: *International Journal of Multiphase Flow*

Received date: 13 July 2017  
Revised date: 12 February 2018  
Accepted date: 14 February 2018

Please cite this article as: L.H.P. Cunha, I.R. Siqueira, E.L. Albuquerque, T.F. Oliveira, Flow of emulsion drops through a constricted microcapillary channel, *International Journal of Multiphase Flow* (2018), doi: [10.1016/j.ijmultiphaseflow.2018.02.015](https://doi.org/10.1016/j.ijmultiphaseflow.2018.02.015)

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**Highlights**

- The flow of multiple emulsion drops through a constricted micro-capillary channel was numerically studied.
- The emulsion concentration in the constriction was kept fixed by a process of injection of drops upstream the narrow channel.
- The mobility reduction factor related to the pressure drop in the flow strongly depends on the drop size, drop viscosity ratio and capillary number.
- Results obtained in the flow of a single drop can be used to predict the pressure drop in the flow of multiple drops.
- More efficient pore-scale mobility control is achieved with high-viscosity drops that have the same size or are larger than the constriction at very low capillary number.

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