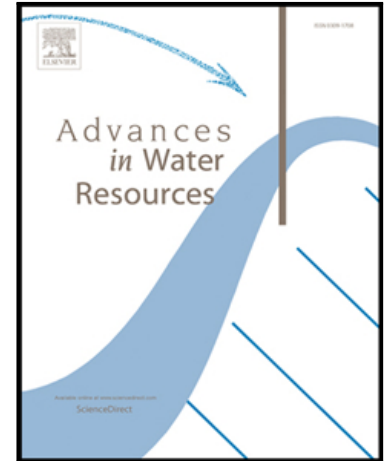


## Accepted Manuscript

Connected Pathway Relative Permeability from Pore-Scale Imaging of Imbibition

S. Berg , M. Rücker , H. Ott , A. Georgiadis , H. van der Linde ,  
F. Enzmann , M. Kersten , R.T. Armstrong , S. de With ,  
J. Becker , A. Wiegmann

PII: S0309-1708(16)30011-2  
DOI: [10.1016/j.advwatres.2016.01.010](https://doi.org/10.1016/j.advwatres.2016.01.010)  
Reference: ADWR 2549



To appear in: *Advances in Water Resources*

Received date: 25 June 2015  
Revised date: 25 January 2016  
Accepted date: 30 January 2016

Please cite this article as: S. Berg , M. Rücker , H. Ott , A. Georgiadis , H. van der Linde , F. Enzmann , M. Kersten , R.T. Armstrong , S. de With , J. Becker , A. Wiegmann , Connected Pathway Relative Permeability from Pore-Scale Imaging of Imbibition , *Advances in Water Resources* (2016), doi: [10.1016/j.advwatres.2016.01.010](https://doi.org/10.1016/j.advwatres.2016.01.010)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Highlights

- Quasi-static simulation of two-phase flow in porous media agrees with experimental data within experimental uncertainty for drainage
- A morphological approach, which approximates capillary displacement, does not represent the imbibition process. Ultimately for modelling relative permeability in imbibition an approach is needed that captures moving liquid-liquid interfaces which requires viscous and capillary forces simultaneously
- If pore scale fluid distributions are available e.g. from micro-CT flow experiments, relative permeability can be estimated from the connected pathway flow (for low capillary numbers)
- The agreement is better at low water saturations where the oil phase is predominantly connected than at higher water saturation where the oil phase is increasingly disconnected.

Download English Version:

<https://daneshyari.com/en/article/6380691>

Download Persian Version:

<https://daneshyari.com/article/6380691>

[Daneshyari.com](https://daneshyari.com)