

Call for Papers

Oil & Gas Science and Technology - Revue d'IFP Energies nouvelles

Special Issue on

“Capillarity in Porous Media: Recent Advances and Challenges”

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Synopsis

Capillarity refers to the phenomenon of fluids imbibing into fine pores or porous rocks and materials due to surface energy, through the action of capillary pressure. The capillary pressure is caused by the existence of surface or interfacial tension in the fluid interface tending to minimize the interfacial area. Capillarity and its importance has been widely recognized in various fields, including civil engineering, soil science, hydrology, carbon storage and petroleum engineering. Therefore, understanding the fundamental physics that control capillary transport phenomena in porous media is critical for many technologies. To date, the subject has attracted continuous interest from the side of fundamental science and practical application. With the rapid development of computational and experimental techniques, the research on capillarity is advancing at an unprecedented level and provides insight and opportunities for further effort in what is already a flourishing field of research.

This Special Issue aims to present recent advances and challenges in subjects addressing capillary flow in porous media. We invite investigators to contribute both original research articles and review articles that will explore as many aspects as possible in the modeling and characterization of capillary flow transport and phenomena in diverse porous media.

Potential topics of this special issue mainly include, but are not limited to:

- Wettability and wettability alteration
- Capillary pressure curve
- Surface roughness effect
- Spontaneous and forced imbibition
- Pore and core scale simulations and experiments
- Non-Newtonian fluid capillarity

- Nanometer size effect
- Scaling
- Advanced materials
- Capillarity in unconventional
- In-situ imaging and monitoring of capillary phenomena

Important dates

Open for submission: January 20, 2021

Submission deadline: June, 20, 2021

Suggestions for the preparation of full papers:

Online submission tutorial: <https://ogst.ifpenergiesnouvelles.fr/submit-an-article>

Note: Please select our special issue title when you submit your manuscript.

All papers will be peer-reviewed by at least two independent reviewers. Requests for additional information should be addressed to the editors.