
He worked for BHGE as an R&D intern in 2017. Dr. Xu's research focus is flow mechanics and phase behaviors of multi-phase systems in porous media. He holds a doctorate in petroleum engineering in 2018. His research interests include multiphase flow and geomechanics in porous and fractured media. He is currently a postdoc fellow at the School of Chemical Engineering and Materials Science, University of Wisconsin-Madison.

Emitting is avoided by capturing CO2 from stationary sources and transporting it into a suitable storage location. Geological storage in deep saline aquifers is one of the most favourable storage options, providing long-term containment of CO2. However, the storage capacity of these aquifers is limited, and the potential for leakage and induced seismicity needs to be carefully assessed. This is an ongoing area of research, with new methods being developed for monitoring CO2 injection and assessing the long-term integrity of the storage site.

The water flow in non-equilibrium artificial trees is a coupled outcome of multiple mass transfer phenomena and multi-phase thermodynamics phenomena in dense/porous media and two-phase flow. The study provides detailed evaluation of porous intervals within these reservoirs and their performance.

Experimental, analytical, and computational methods are pursued to drive fundamental understanding of the behavior of these multiphase, multifunctional systems as well as to develop methodologies for practical applications. The Computational fluid dynamics (CFD) methods are widely used for thermal and hydraulics investigations of the nanofluids flow inside the porous media. Almost all studies dedicated to the prediction of velocity profile of water-based nanofluid assumed a hydrodynamically ideal and smooth Leray's model to locate the nanofluid flow in porous media. Koonta undertook his PhD study as an experimental flow and heat transfer experiments. Three interests include fuel cells, flow in porous media, modeling systems, and some of various heat transfer fluids. More information is given below on PEM fuel cell and heat transfer.