



**Brian McPherson, Ph.D.**  
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Dr. Brian McPherson is Utah Science, Technology and Research Initiative (USTAR) Professor of Civil and Environmental Engineering at the University of Utah. During the past 25 years, Dr. McPherson has researched multiphase flow processes, rock “hydromechanics,” and in situ reactive transport, with the past two decades focused especially on geological carbon sequestration. McPherson and his research group developed and maintain a high pressure/high temperature laboratory capable of combined multiphase flow and rock mechanical response testing, and are currently conducting tests to quantify three-phase relative permeability under in-situ conditions of high rate CO<sub>2</sub> injection for sequestration. The data are used to parameterize 3-D numerical models of multiphase reactive transport for sequestration analysis, including extrapolation of results for storage forecasting as well as uncertainty and risk quantification. Long-term research interests that Dr. McPherson continues to pursue today include fundamental heat flow and thermal aspects of the earth, especially coupled heat and fluid processes in sedimentary basins and geothermal systems, and petroleum generation and migration processes. Dr. McPherson earned his Ph.D. in Geophysics in 1996 under the direction of John Bredehoeft. Dr. McPherson also serves as Science Director of the Southwest Regional Partnership on Carbon Sequestration, one of seven regional partnerships established in 2003 by the U.S. Department of Energy and its National Energy Technology Laboratory.