An exploration into the controls and extent of capillary rise in fine grained sand

Capillary rise in fine grained sands is especially important due to the wide distribution of fine grained sediment throughout the unconsolidated sedimentary layers covering the earth. The height to which water rises above the water table in porous media is known as the capillary fringe. Tension pulling on the water molecules from the solid surfaces of pores will cause water to rise in the unconsolidated fined grained sands until the water reaches equilibrium with the downward force of gravity. Researching the controls behind capillary rise and being able to predict the extent to which water will rise in fine grained sand will help provide insight into many applied situations affecting industry, infrastructure, agriculture, and environmental remediation. A review of literature as well as a series of laboratory experiments will provide insight into the questions surrounding the controls on the extent of capillary rise in fine grained sands.