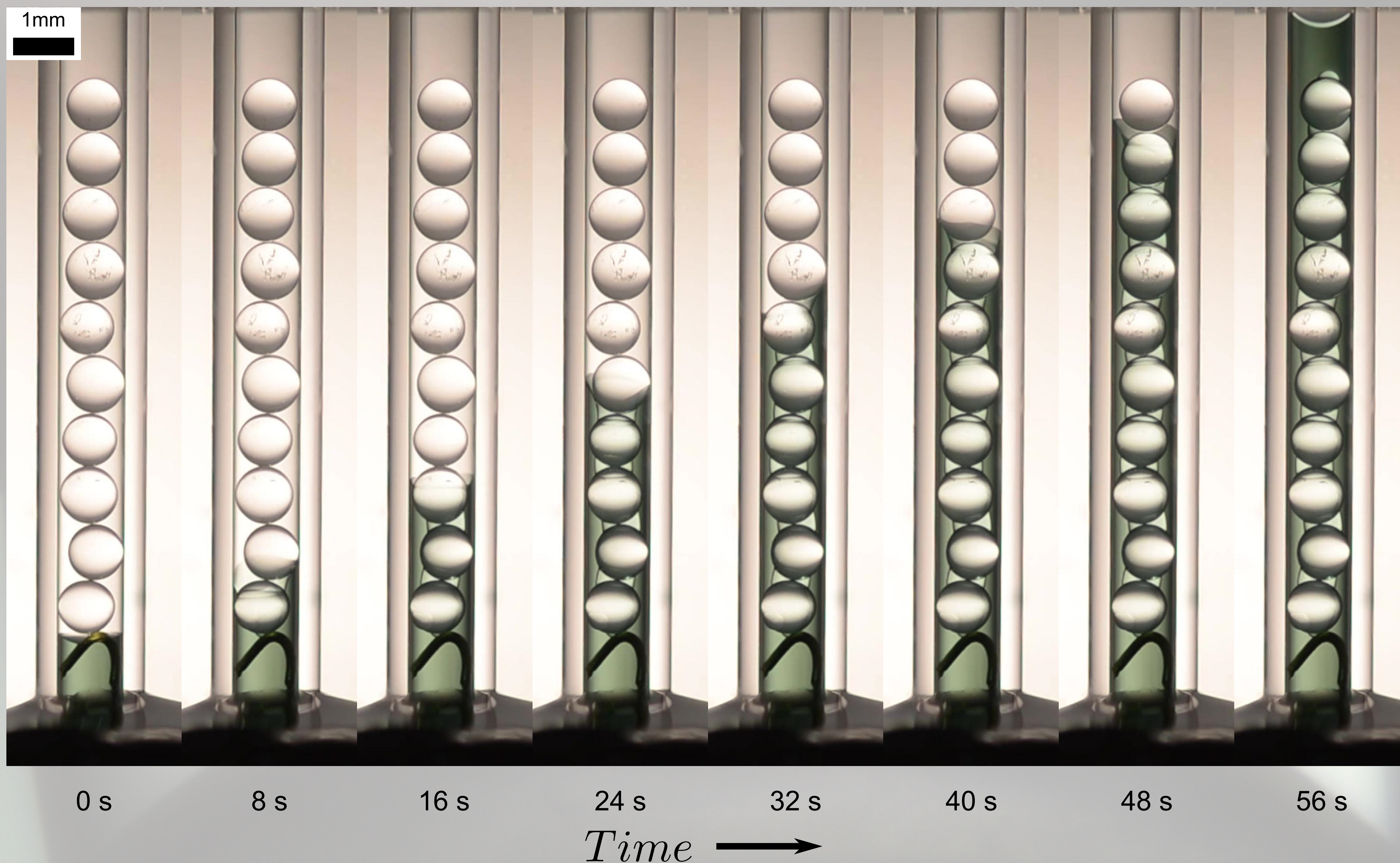


# It's a trap! Oil stays behind when water wicks

Peter Walls and James Bird

Boston University, Massachusetts, USA



A plasma cleaned capillary tube filled with silane treated glass beads is fully submerged in a silicone oil bath floating above dyed water. When the tube comes into contact with the water it spontaneously imbibes displacing the oil, but leaves behind a fraction trapped between the beads. The amount trapped is influenced by the contact angle  $\theta_c$  with increasing values resulting in a larger amount of trapped oil.

*Project funded by Weatherford Laboratories*

