

Figure 1: Typical equilibrium shapes for fluid droplets and bridges in pressure-driven flows between two parallel plates. Understanding the deformation and sliding of drops and bubbles in restricted geometries (e.g. porous media) can contribute significantly, among other areas, to the secondary oil recovery, a multi-billion section of all the major oil companies.

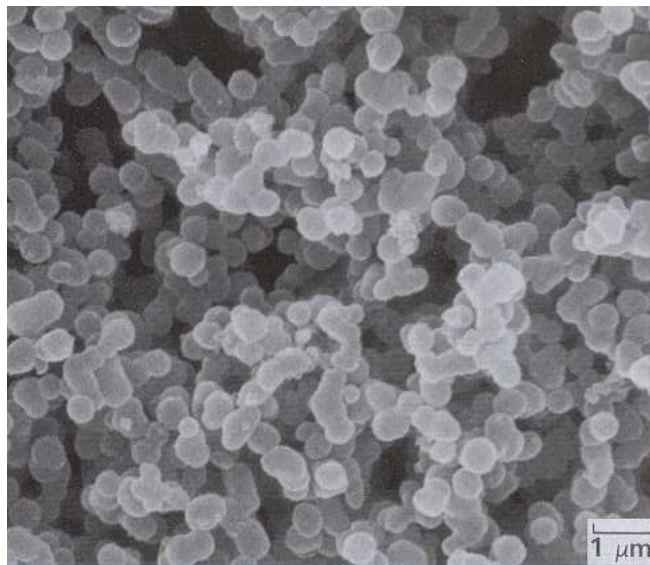


Figure 2: A microemulsion is a dispersion of one liquid phase into another, stabilized by an interfacial film of surfactant. Microemulsions are typically clear solutions, as the droplet diameter is approximately 100 nanometers or less as shown in this figure. Microemulsions are quite common in our every-day life; examples include paints, wax dispersions, cosmetics, lubricants as well as food and pharmaceutical products.