Oil-Water Separation with Conducting, Hydrophilic Membranes

- Oil-water separations are vital to remediate water from oil spills or production
- Hydrophilic membranes minimize oil fouling
- Applied potentials may facilitate coalescence of charged oil droplets and move them away from the membrane

Student Experiences

- Prepare membranes
- Examine separations as a function of applied potential and surfactant
- Determine oil content with GC
- Surface characterization

Counter Electrode

Conducting Membrane

Hydrophilic polymer brush

Water

Oil droplet