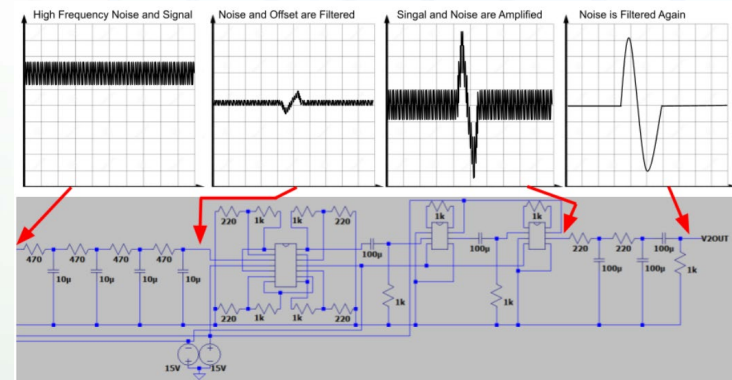
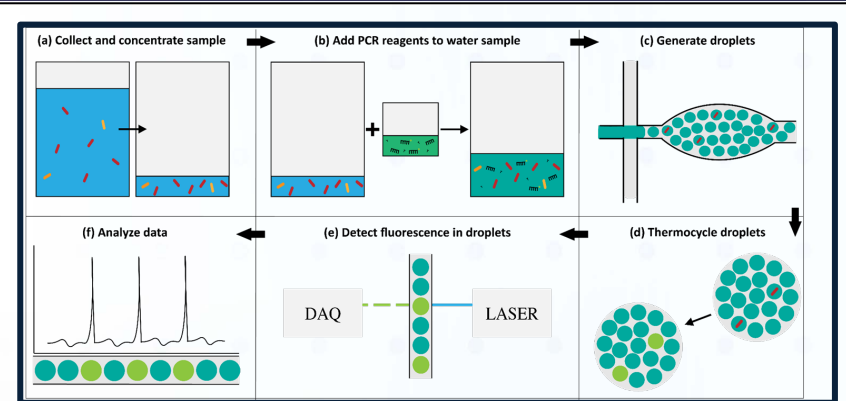


An Optical/Electrical System for Micro Droplet Screening

Jeff Jessing, Fort Lewis College

The undergraduate researchers at Fort Lewis College developed a microscope and an optical signal detector circuit to quantify single bacterium in microdroplets from environmental water samples (top). The developed microscope and the detecting circuit have a great resolution and sensitivity which helps with boosting the resolution and sensitivity of bacteria detection for environmental engineers. The team will perform a thorough testing of the system and publish all the technical details as an open-source droplet detector.



TOP Bacterial sample collection and signal detection overview. **BOTTOM** Filter and amplifier circuit design to provide the necessary resolution and sensitivity for bacterial detection.