

mc2229

Michelle Cheng's Individual Contribution Page

Fall 2016 Contributions

This semester, I will be a member of the AguaClara Fluoride subteam. Our goals at this moment include fabricating and testing a bottom insert with optimal geometry and analyzing the relationship between fluoride removal efficiency and floc blanket height. In order to save on costs and resources, we will be conducting all initial experiments using red dye. If time allows, we will test the actual removal system on fluoride and evaluate the necessity of clay to the process.

Spring 2017 Contributions

This semester, I am returning AguaClara Fluoride subteam. After thoroughly testing the effectiveness of a single fluoride removal reactor last semester, our new goals now focus on researching the effectiveness of two countercurrent reactors in series. This proposed set-up could remove significant amounts of dissolved fluoride and enable us to reuse PACl (reducing our usage of coagulant). Experiments directly comparing the two systems' removal of Red Dye 40 will be run at various upflow velocities and time durations. If time allows, the data collected will aid in the design and fabrication of a 0.1 L/s for future plants.