

Jonathan Christensen's Individual Contribution Page

Fall 2013 Contributions

This semester I was on the Turbulent Tube Flocculator team. We finalized the design of and fabricated a turbulent tube flocculator for testing flocculation under turbulent conditions - primarily the limited growth flocculation hypothesis. We fabricated PVC pipes fortified with metal bars to constrict the flocculator tubing at regular intervals. We constructed the flocculator and ran water through it to check for leaks. We have assembled some of the peripherals for flow control and data acquisition. Future work will include adding coagulation, effluent testing, and a draining system.

Spring 2014 Contributions

This semester I am on the Turbulent Tube Flocculator and Fluidized Bed Flocculator team. We have designed and constructed a settled water turbidity measurement apparatus (SWaT) for the turbulent tube flocculator. We also developed a method file in process controller and ran baseline experiments. Based on poor effluent turbidity, we want to make several alterations to the apparatus. After the improvements, future teams will hopefully see reasonable particle removal.

We have also designed a fluidized bed flocculator, in which an up-flow sand filter will accomplish flocculation and a SWaT unit will measure effluent turbidity. The sand column and SWaT have been constructed, so future teams will need to connect the electronic control systems and create a method file in process controller.