

Ju Khuan's Individual Contribution Page

Spring 2012 Contributions

In Spring 2012, I was part of the [Floc Sed Optimization Team](#). As a brand-new research team, we faced many difficulties building a set-up that could handle the wide range of experiments that we wanted to carry out. However, we worked together as a team to do the best that we could, while trying to maximize learning opportunities for one another.

I contributed my theoretical and software knowledge from CEE 4540 by taking the lead on system design calculations and data processing on MathCAD. With guidance and suggestions from Karen, Marion and Kester, I produced the MathCAD graphs that were used in our reports and final presentation. I also devoted extra time and effort into learning and practicing the practical skills required to build and troubleshoot our experimental setup. For example, I took the initiative to download Process Controller onto my computer and practiced doing the online tutorial in order to familiarize myself with the interface. I also checked in on experiments frequently and took pictures to document the qualitative observations from our experiments. The frequent interaction I had with Karen and my teammates throughout the semester has helped me to grow a lot more confident, independent and useful in the lab environment.

Fall 2010 Contributions

For this Fall 2010 semester, I am working on the [Inlet Manifold](#) team. Some of our major achievements this semester include proving the presence of pressure recovery, and discovering the horizontal velocity component of the exiting jets. These contributed to the circular flow that we observed in dye tests on a model of the sedimentation tank.

Besides helping out with the actual experiments in general, my contributions this semester were mainly to help document our discoveries by:

- Taking videos, editing them and then posting them on Youtube (channel available [here](#))
- Creating a summary [videos page](#) on the Wiki
- Compiling our dye test results into a document on [potential design options](#) together with Katie
- Providing graphics support on our reports
- Creating and updating the [Design and Models](#) page.

I was the primary author and secondary editor on our third [Reflection Report](#).

For our final report, I worked on a document that explains why and how we would increase the inlet manifold from a 6" to an 8" pipe as a potential retrofit as well as a design for a new plant. This was made available as an appendix to our final report.