

## Julie Pierce's Individual Contribution Page

### Fall 2009 Contributions

I am on the [Automated Design Tool](#) team. I started off the semester working on the design of the horizontal flocculator. To understand how the algorithm works, I documented the design of the vertical flocculator and discussed some minor changes with Monroe, including lowering the height of the top baffles to half of the freeboard height in the flocculator to allow space for water to go if there is an overflow. I looked at what would be different for the horizontal flocculator and began to code the changes. I also discussed that the transition should occur from vertical to horizontal flocculators when the flow rate makes the horizontal flocculator the same height as the sedimentation tank. I completed the design algorithm in MathCAD for the horizontal flocculator. I then worked with May Sharif and Jeff Will to make the necessary changes in the AutoCAD script. We successfully drew a horizontal flocculator and will debug it and compile it into one file that chooses between the horizontal and vertical flocculator. Once we learned that there needed to be design changes for Agalteca, I worked extensively on that, especially on the flocculator. We changed the energy dissipation rate to be even such that there were even baffle spacings. I also aided in determining the new design of the sedimentation tank with Monroe, Nicolas Pautassi, and Gonzalo Caprario. As AguaClara Team Leader, I have done a lot of organizational work including setting up the syllabus, sending out reminder emails, grading weekly minutes, and helping the Outreach team.

### Summer 2009 Contributions

I have been doing a thorough review of the wiki and making any necessary updates.