

# her28

## Heidi Rausch's Individual Contribution Page

### Summer 2011

I was a member of the Turbidimeter Team. This team worked to create a low cost turbidimeter prototype to be used by communities in Honduras. At the end of the summer we were able to ship ten turbidimeters to Honduras; the design only cost about \$4. This design consisted of a plastic stick about 60 cm long to which was attached a LED light and a HDPE block with a simple design stuck to top of it. This design could read NTU values down to 15 NTU; in the future hopefully a turbidimeter that can read NTU values down to 5 NTU or lower can be created.

### Fall 2011

I am a member of the Turbidimeter team as well as the Inlet Manifold Fabrication Team. This semester on the Turbidimeter team worked to make the turbidimeter more accurate. We tried to do this by experimenting with different colored LED lights and different sizes of HDPE blocks. At the end of the semester we were able to come up with a design that can possibly read down to about 7 NTU while still being only 60 cm long. However, this design needs to be tested more for accuracy before it can be used. Also, the team has concluded that it may impossible to get any lower read any lower NTU without lengthening the plastic stick that is the turbidimeter lowering rod. On the inlet manifold team we worked to create a suitable method for creating the inlet manifold diffuser tubes that have been designed for the plant. The main problem that need to solved was that a fabrication method needed to be established for changing the shape of the diffuser tubes (PVC pipe) from a circle into a rectangle. The final method that the team came up for creating this rectangular geometry was heating the PVC pipe in boiling water over a hot plate and then forcing the hot PVC over a metal mold that had also been heated in the boiling water.

### Spring 2012

This semester I joined the design team and will be working with Julia Morris to finish up the turbidimeter. On the design team I worked on creating a wye and reducer functions, and I also worked on updated the chemical stock tanks drawing file.

### Summer 2012

This summer I am a member of the design team; I am working on modularizing the design code so that individual parts of the plant can be requested online. I am also advising the Demo Plant, Fabrication and Sedimentation Tank Hydraulics teams.

### Fall 2012

This fall I am continuing work on the modular design component of the design tool. The most updated version of the design server can be found here: <http://designserver.cee.cornell.edu/Designs/> I helped with the addition of all methods other than the original AguaClara plant method. There are still many problems to be completely worked out on how the modular designs and updates to the beta server should work. I am also a research team adviser this semester and am advising the Sedimentation Tank Hydraulics, Demo Plant, Chemical Dose Controller and Low Flow Rapid Sand Filtration teams.

### Spring 2013

This semester I am continuing to advise teams and am the advisor for the Chemical Dose Controller, Coagulant Optimization, Low Flow Stacked Rapid Sand Filter, Demo Plant, and Small Scale Plant Model teams. I hope to also be able to continue to work on updating and improving the modular designs aspect of the beta server when I have time.

### Summer 2013

Advised student teams and helped to work on a 170Lps plant design with Julia Morris. Also continued to work on Modular designs and some work on the cdc design code.

### Fall 2013

Advised student teams, worked some on Modular designs.

### Spring 2014

As a staff member for AguaClara, still advising student teams and working with the design team. Finishing up Modular designs and organization of the upper level code.

<b>Content created by Anonymous</b>
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There are no pages at the moment.
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