

iGEM advisor's meeting
3/27/12

Project proposals:

Angela: RNA Site- Specific Recognition Machinery Using PUF

- It is known that PUF bind the RNA and assists with gene expression. However, not many other details are known.
- It's like zinc fingers for RNA
- Is 8 base pairs specific enough to identify viruses? What if we used several PUFs? 16 base pairs would probably be enough. This works well as a viral detection system.
- RNA detection system is a possibility but it would take a long time to perfect.
- Use possibility is an in vitro RNA regulator. Binding of PUF to mRNA inhibits its expression. Very simple, and a proof of concept experiment. This could tie into the lysin manufacture for the tuberculosis proposal
- Want a quick easy test to see if this works. This is definitely worth pursuing.

Anthony: Production of a New Food Source for Aquaculture of Predatory Fish

- E. coli naturally make triglycerides, but not the type we're looking for. There is the possibility to introduce another substrate.
- Is there the possibility to create a bioreactor where the enzyme just breaks down fats?
- More research on possible substrates needs to be done.

Asha: Tuberculosis fighting E. Coli

- Wouldn't work with tuberculosis, would use M. smegmatis which has 17 known phages
- It takes 2 weeks to grow! It's hard
- Perdue might be pursuing something like this because one of their professors has done research on it.
- Instead of looking at tuberculosis phages, just look at bacteriophage ideas in general.
- Need to look at the lysin proteins in more detail.

Bob: Crossing the Self-sustainability of Photosynthetic systems with Other Cells

- It's not really possible to introduce photosynthesis to e. coli.
- Nanotechnology or endosymbiosis would be better options
- We need a model for this

Recommendations:

- Do the PUF project and then pick another one of the 3 application projects to pursue.

Announcements:

Divya – publicity:

- We are signed up for IGB Fellows, where the E. Chiver poster will be presented. 1 or 2 people need to present, so watch for the email closer to May.

Cara

- WashU has been contacted, Cara's contact is working to connect us to the WashU team.
- NU will be contacted next, along with Perdue

Angela

- This Saturday we will be cleaning up the lab! Everyone should come to help and learn more about where everything is in the lab. It will start at 1.
- The coming weekend meetings are very important, please commit the time to be there!
- On April 10th we will meet with Dr. Robinson, the head of the IGB. You have received an email with the details of this.
 - o Aside from this meeting, every Tuesday until May will be an advisor's meeting.