

Progress Report 11

Week of 12/3/18

Alex Goodman

Work/Research Accomplished:

- Completed testing last sunday
 - Meat test
 - Ion-selectivity test
- Mainly worked on meat test and compared the accuracy of a glass and ISFET probe
 - Found no significant difference between the two
 - Analyzed results and recorded them in lab archives
- Made final adjustments to lab archives
 - Careful to record all observations and results in book
 - Recorded BME outreach activity
 - Placed graphs in there as well
- Created BME design poster with group
 - Poster presentation on friday
 - Practiced giving the introduction and background sections

Problems:

- No drastic problems to report, wrapping up the semester in BME design

Will Bacon

Work/Research Accomplished:

- We received some of our testing materials from Dr. Doro
- Finished going over testing protocol
- Began work on outreach project, and will meet up later this week to finalize our idea for it. The following factors will be discussed:
 - Timeline for outreach project
 - Potential locations
 - Interactiveness of design
 - Potential rewards for good designs/winning teams -- candy?
 - Assigning roles
 - Maybe have each us be assigned to a group to serve as an advisor
 - Could potentially be a mini-competition among us group mates

Problems:

- We will need to find a company or method to miniaturize the ISFET technology

Mark Austin

Work/Research Accomplished:

Problems/Concerns:

- Performed multiple sets of testing
 - Meat probe
 - Temp sensitivity
 - Ion selectivity
- Breadboarded analysis circuitry
 - Bandpass filter
 - $F_{c_L} = 0.5 \text{ Hz}$
 - $F_{c_H} = 10 \text{ Hz}$
- Ran signal through and added noise
- Filtered out EMG and power line noise
- Signal output looked sufficient

Kelsey Murphy

Work/Research Accomplished

- Made and edited the final poster
- Practiced presenting both individually and with team
- All materials have now arrived
 - We are unable to use the meat-and-cheese probe to compare to the DeltaTrak sensor. We will talk to Dr. Doro to see if he still wants us to do this, or if we should return the probe since it was expensive.
- Outlined final report

Problems/ To Do

- ABS is one of the body-contacting materials. This is a cytotoxic material, so in our own design we will have to replace it with a biocompatible material of similar strength.