

Senior Design 491 Weekly Report 10

Date : 11/22/2017

sdmay18-10: Patch-clamp microchip testing circuit interface

Client & advisor : Que Long

Team member & Roles :

---- Chenhang Xu - team communication leader

---- Daiyuan Ding - team webmaster

---- Li Qian - team leader & time keeper

---- Junhua Hu - Team designer

---- Ningyuan Zhang - team programmer

---- Yigao Li - team test leader

Weekly summary :

Continued testing the PC-ONE patch-clamp with different settings to collect silicon DMEM data.

Started to try put neurons to get some data. Began work on the final version of project plan and design document with what we had done so far.

Past Week Accomplishments

Member name	Accomplishments
Chenhang Xu	Use the shield to reduce the room noise. And find out the electrical noise created by computer and PC-ONE device.
Daiyuan Ding	Keep working on the speed test, found that the room noise is too large. Figure out the problems from the last week. Need another headstage for the experiments. PC-40 is required, but we only have PC-10.
Li Qian	Still working on the PC-ONE tests, and trying to reduce the noise that affect the results.
Junhua Hu	Working on PC-ONE filter function.
Ningyuan Zhang	Continuing testing the interface prototype and collecting data. Draft the final version of Design Document based on the achievements we did so far.
Yigao Li	Try to figure out the problem that noise in environment will affect the results during the test

Pending issues

Member name	Accomplishments
Chenhang Xu	Prepare the final presentation slide and finish the speed test, which is useful for our future test.
Daiyuan Ding	Need another headstage for the speed test module. Headstage PC-40 is required, but we only have PC-10.
Li Qian	Finish the speed test, and try to reduce the noise. Finish the project plan v3, and preparing the final presentation.
Junhua Hu	Trouble on making PC-ONE work with the design circuit.
Ningyuan Zhang	Seeking the way to come up with correct setting up for neuron test.
Yigao Li	working on reducing the noise and final presentation.

Individual contribute

Name	Individual Contributions	Hours this week	Hours Cumulative
Chenhang Xu	Work on the final presentation slides. Do the test again for we have already reduce serval noise. The data we get is very close to the given data.	6	35
Daiyuan Ding	Keep working on the speed-test module. Figure out the problem of the measurement. Regular website update.Preparing the final presentation.	5	38
Li Qian	Working on the PC-One speed test and trying to find ways to reduce the noise. Draft the weekly report.	6	39
Junhua Hu	Trying to connect the PC-ONE and design circuit to collect data, but different noises outcomes appear.	5	37
Ningyuan Zhang	Drafted weekly report, drafted	5	40

	design document, drafted project plan, collected prototype test data.		
Yigao Li	collect data during PC-One speed test, draft the weekly report and figure out how to reduce the noise.	5	30

Comments and Extended Discussion

This week we did not start anything new according to our project, because we are entering the phase with numeric tests to get the reliable data. We did not meet with advisor either because of thanksgiving week.

Plan for Coming Week

We are planning to continue test the prototype until we find the suitable setting.

Summary of Weekly Advisor Meeting

We did not meet with advisor because of the thanksgiving vacation, but we held an internal group meeting to discuss the data we collected according to the prototype.