Senior Design 491 Weekly Report 7

Date : 11/1/2017
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 :
Regular meeting with advisor and testing the PC-ONE patch-clamp with default setup we built last week.

Past Week Accomplishments

Member name	Accomplishments
Chenhang Xu	Work on the pc-one setting up and order the new parts for us. Such as power supply and new cables, which can reduce the noise.
Daiyuan Ding	Work on the PC-ONE setting up. Preparing to test the speed-test module.
Li Qian	Know the basic setting up of the PC-ONE equipment and present to the advisor..
Junhua Hu	Getting fimiliar with PC-ONE.
Ningyuan Zhang	Daft the weekly report. Test the prototype with default silicon DMEM. Collect the raw data.
Yigao Li	be familiar with the steps of steeing up and present it to advisor.

Pending issues

Member name	Accomplishments
Chenhang Xu	Finish the speed test and get the raw data. Compare the data with the given data. It may be some different. But if the difference is too big, we need to find the way to reduce the noise.

Daiyuan Ding	Need power generater to start speed-test module test.
Li Qian	Work on the test on PC-ONE
Junhua Hu	Cannot run PC-ONE without power generator.
Ningyuan Zhang	Need to come up with several sets of stable data from the reading of oscilloscope.
Yigao Li	do some real test on patch clamp to perfect the steps

Individual contribute

Name	**Individual Contributions**	**Hours this week**	**Hours Cumulative**
Chenhang Xu	Present the set up step to our professor. Prepare the slides for set up.	**6**	**17**
Daiyuan Ding	Prepared the slides for setting up steps. Met with advisor and made a presentation. Work on the PC-ONE setting up. Preparing to test the speed-test module.	**5**	**24**
Li Qian	Have a meeting with advisor and graduate student. Do the basic setting on the PC-One. Try to get the testing data.	**5**	**24**
Junhua Hu	Communicate with instructor, showing presentation about our understanding about PC-ONE equipment. Asking the power generator for the further test.	**5**	**28**
Ningyuan Zhang	Meet with advisor. Try to find the power supply. Daft the weekly report. Test the prototype with default silicon DMEM. Collect the raw data.	**5**	**5**
Yigao Li	meet with advisor and introduce him the basic steps of setting up.	**5**	**15**

Comments and Extended Discussion
We tested the PC-ONE patch-clamp with our prototype interface setup, and got several sets of raw data of the silicon DMEM without neurons involving. The PC-ONE worked well, headstage worked well, oscilloscope worked well and power generator worked well. We will get as stable as possible date to do further experiments.

Plan for Coming Week
Continuing test the silicon DMEM and try to get the most stable reading from oscilloscope, and add neurons into the model to start test the neuron current.

Summary of Weekly Advisor Meeting
In this week, we regular met with advisor, and tested the prototype of the interface. We also started to prepare our final presentation with several obtained data for now. We will also started to draft our final project plan and design document according to the process we have done so far.