# Senior Design 492 Biweekly Report 1

Date : 1/25/2018 Project title : 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 ---- Ningyuan Zhang - team programmer View List team test header

---- Yigao Li - team test leader

### Weekly summary :

Have the first group meeting with advisor and graduate students. Discuss about the goal and expected results of this semester. List the challenges and problems that meet or will meet in tests.

### **Past Week Accomplishments**

Member name	Accomplishments	
Chenhang Xu	First group meeting this semester. Resent the parameter of our microchip to fabricate. For the electrode we use is larger than the dot on the microchip. Test the whole equipment again. The BNC cup works well, which can reduce most of the room noise and electronic noise.	
Daiyuan Ding	Had the first meeting of this semester. Discuss about the problem for reducing noise during our meeting and make the plan for the rest of the semester. Re-test the whole equipment to make sure it still works.	
Li Qian	Have the first group meeting. Get to know the specific parts on the PC-ONE. Discuss the problem we meet in the testing parts with the noise. Meet with advisor and graduate students.	
Ningyuan Zhang	Met with advisor, planned following biweekly meeting arrangement, managed the problems we are facing for this semester, got familiar with the enhanced platform and method of reducing room noise, planned to remake the microchip model, and looked for new setup of electrodes that needed to be inserted into the microchip	

	model.
Yigao Li	Met with professor first time this semester. Talk about the schedule of design this semester.Discuss the problem we have already had right now. Testing the equipment to make sure its status.

# Pending issues

Member name	Accomplishments	
Chenhang Xu	Simulate the steps we need to do to catch the living cell. Find a way to input the air into the cell flow channel and use the air to push the cell to the electrode.	
Daiyuan Ding	Need to find a way to solve the problem that how to catch a cell when its in a solution and the problem of remaking the microchip.	
Li Qian	Try to find out how to set up the PC-ONE, in order to lower the noise. Prepare for the presentation for PRIM review.	
Ningyuan Zhang	The method to use new microchip model to catch alive neuron is the most important issue we are facing. We may spend a lot of time to remake the microchip model to make the model easier for us to catch neuron.	
Yigao Li	To simulate the process of capturing living cells. Look for a way to apply air to the cell's flow channel and use air to push the cell onto the electrode.	

## Individual contribute

Name	Individual Contributions	Hours these 2 weeks	Hours Cumulative

Chenhang Xu	Design the microchip again, which can meet all our requirement. Test the equipment agian and test the BNC cup.	6	6
Daiyuan Ding	Meeting to discuss about the problem we are facing and schedule the plan for the rest of the semester. Prepare for the presentation for the next week.	6	6
Li Qian	Have the first group meeting. Get to know the specific parts on the PC-ONE. Discuss the problem we meet in the testing parts with the noise, and try to find a method to reduce the noise.	6	6d
Ningyuan Zhang	Met with advisor, drafted the biweekly report, discussed the enhanced platform setup with advisor, adjusted the PC-ONE to more properly assiste the new platform.	6	6
Yigao Li	Discuss about the problem with advisor during the first meeting of this semester. Understand the specific parts of PC-ONE.	6	6

# **Comments and Extended Discussion**

N/A

### Plan for Coming Week

For the next week, we will start our first experiment under the microscope. For the first time to catch the cell, we need to read some document relate to it. Our new microchip will arrive in a few weeks, so we will test it on the old microchip. The main problem we are faced with is how to add the air into cell flow channel and catch the cell use the electrode.

### Summary of Weekly Advisor Meeting

Discuss about the goal and expected results of this semester. List the challenges and problems that meet or will meet in tests.