

Group number: 1721

Project title: Glucose detection using a disposable nanosensor

Client &/Advisor: Prof. Que

Team Members/Role: Shir Linn Tan (Team Leader)

Wai Han Kong (Team Communication Leader)

Dalton Strauser (Team Key concept holder)

XiongSheng Yi (Team Webmaster)

○ **Weekly Summary**

For the this week, our group have did the second presentation regarding the subject of nanostructured optical microchips for cancer biomarker detection. The Professor said that we would need to study 1 more paper before we can actually start handling the nanosensor itself. As for the details in regard to our presentation, it would be discussed in further section.

○ **Past week accomplishments**

- Shir Linn Tan: Preparing the base file for presentation and presenting the result yielded from the research in the paper to the professor.
- Wai Han Kong: Help Shir Linn Tan in preparing the base file for presentation and presenting the conclusion of the research to the professor.
- Dalton Strauser: Arrange the file into PowerPoint and tasked with presenting how the nanosensor can detect the protein with the nanochip.
- XiongSheng Yi: Work with Dalton Strauser to arrange the file and is responsible for the introduction and brief opening of the research paper given.

○ **Pending issues**

- Shi Linn Tan: Studying the third research paper given before heading into project itself according to the professor.
- Wai Han Kong: Studying the third research paper given before heading into project itself according to the professor.
- Dalton Strauser: Studying the third research paper given before heading into project itself according to the professor.
- XiongSheng Yi: Studying the third research paper given before heading into project itself according to the professor.

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Tan Shir Linn	Preparing the base file and did the presentation on Friday	3	11
Wai Han Kong	Preparing the base file and did the presentation on Friday	3	10
Dalton Strauser	Arranging the base file into PowerPoint and did the presentation	3	9
XiongSheng Yi	Arranging the base file into PowerPoint and did the presentation	3	9

○ **Comments and extended discussion**

For the past week, we had did a 26 pages slide regarding the nanostructured optical microchip for cancer biomarker detection. This research paper explain why this research is being done in the first place, how they go about doing it, how the microchip work in order to detect the cancer biomarker, and how to interpret the results. The reason why this research started was because present technology cost too much and also it does not have an efficient way to detect the cancer biomarker at a picomolar level. In order to do that, they develop a FPI microchip(Fabry-Perot interferometer) that utilize the difference in between two surface's refractive index to detect whether the biomarker is there or not. From there on, various experiment had been done simultaneously in order to prove that the results are not due to other factor but solely because of the biomarker that they want, and they succeed in doing so. The conclusion was that the developed FPI microchip has

excellent selectivity and specificity and is able to have sufficient sensitivity at picomolar level. After doing this presentation, Professor Que told us that there is one more paper to be studied before actually heading into the project itself. As such, for the coming week, we will be doing research on the final research paper that he send us and await the next meeting with him again which is decided to be the 21st of October.

○ **Plan for coming week**

- Shir Linn Tan: Read through the 3rd research paper and prepare the presentation
- Wai Han Kong: Prepare Read through the 3rd research paper and prepare the presentation
- Dalton Strauser: Read through the 3rd research paper and prepare the presentation
- XiongSheng Yi: Prepare Read through the 3rd research paper and prepare the presentation

○ **Summary of weekly advisor meeting**

For the past week, we did our presentation to Professor Que about the nanostructured optical microchip for cancer biomarker detection and he then further proceed to give us more information for the subject itself since the research paper itself does not contain everything that we need for the project itself. After that, he told us that we would need to study the one final research paper before heading into the project, collaborating with his PhD student in performing various experiment on how to detect glucose using nanosensor which is our project for this and the coming semester. As such, we would be studying up the final research paper for the coming week, while anticipating the coming week where we would be able to do some hand on stuff regarding the project.