EE/CprE/SE 492 BIWEEKLY REPORT 7

Start Date 11/24/2019 – End Date 12/6/2019

Group number: sddec19-07

Project title: Rapid detection of Fentanyl using a multifunction nanostructured

Client & Advisor: Meng Lu

Team Members/Role:

Yifu Zhang - Stationary phase fabrication group
Zheyuan Tang - Stationary phase fabrication group
Hao Wang - Testing group
Ugerah Abalu - Testing group
Kossi Egla - Instrumentation group
Olouwole Eteka - Instrumentation group

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o **Weekly Summary**

This week we worked a lot on making finishing touches to our 3D prototype. This included trying to run some more experiments to test our 3D prototype. We also worked on getting our poster presentation put together for the Industry panel review next week

o **Past week accomplishments**

Yifu Zhang

Try to build the petri dish for our prototype.

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Zheyuan Tang

Helped with the photonic crystal sample fabrication.

Ugerah Abalu

Worked on making changes to the 3D prototype and reordering it. Also worked on the draft of the project poster

Kossi Egla

Helped work in the size of the 3D prototype and resend it for printing

Olouwole Eteka:

Worked on the Solidworks design modification and also on the poster for presentation.

Hao Wang

Made the draft of the poster

o **Pending issues**

Instrumentation (kossi Egla,Olouwole Eteka):

The size of the prototype need to be changed. It needs to be reduced to fit the photonic sensor.

Fabrication & testing (yifu zhang, zheyuan tang, Ugerah Abalu, Hao Wang):

The flow rate of the solvent still needs to be improved.

o **Individual contributions**

NAME	Individual Contributions	Hours this week	Hours cumulative
Hao Wang	1. Made the draft of the poster	4	90
Zheyuan Tang	1.Helped with fabricating the test sample	2	89
Ugerah Abalu	1. Helped with making changes to the 3D prototype and reordering it 2. Worked a lot on the poster that will be presented next week	5	87
Yifu Zhang	1. Discuss with team members, try to find the	8	90

	size of the petri dish. 2. Decide the material of the petri dish		
Kossi Egla	1. Tried the 3D prototype with the Esp 32 cam connected to it. 2. Work on the poster that we will be presenting next week.	8	81
Olouwole Eteka	1.Modifed the Solidworks design of the prototype 2.Discuss with the professor on what light source to use for demo purposes.	8	81

o **Plans for the upcoming week**

Instrumentation (kossi Egla, Olouwole Eteka):

Test the new 3D prototype with the photonic sensor, ESP 32 cam and a solvent and figure out the proper light intensity to the sensor.

Fabrication & Testing(Hao Wang, Zheyuan Tang, Yifu Zhang, Ugerah Abalu):

We will have photonic crystal samples and Petri dish made of aluminum. And combine our chromatography with our Instrumentation, to fix any problems we will have.