

## **EE/CprE/SE 492 WEEKLY REPORT 2**

**Start Date 09/13/2019 – End Date 09/13/2019**

**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**

We summarized the accomplishment of our project as well as the plan for the new semester. In addition, we changed our camera since the old one did not work very well. Also, we did a presentation about our accomplishment and pending issues.

### **o Past week accomplishments**

#### **Yifu Zhang**

1. Review what we have done in the last semester

2. Talk with professor, make a plan for this semester, to improve our test result, and finally combine everything we have into a prototype
1. 3. Read the material

### **Zheyuan Tang**

We met with the professor to set up the plan for this semester and also our weekly meeting time.

Review the experiments and report from last semester.

### **Ugerah Abalu**

Met with professor Meng lu to review progress from last semester and set groundwork for this semester

### **Kossi Egla**

Meet with professor Meng Lu to find the right time to meet during the semester.

### **Olouwole Eteka**

We met with professor to set up the plan for this semester and also our weekly meeting time

### **Hao Wang**

Meet with professor Meng lu to discuss the pending issues and new plan for this semester

### **o Pending issues**

**Instrumentation (kossi Egla, Olouwole Eteka):** We need to go to the lab to do an experimentation to find out the required angle of light reflection on the sensor. Also, Arduino is too weak for image processing.

**Fabricaiton (yifu zhang, zheyuan tang):** Try to improve the separation by changing the material of our UTLC.

o **Individual contributions**

NAME	Individual Contributions	Hours this week	Hours cumulative
Hao Wang	<ol style="list-style-type: none"> <li>1. Meet with Professor to discuss the plan for the new semester</li> <li>2. Try to figure out the position to put the camera</li> </ol>	6	58
Zheyuan Tang	<ol style="list-style-type: none"> <li>1. Met with Professor Meng Lu to discuss project plan for this semester and individual roles in the team</li> <li>2. Review reports and paper from last semester.</li> </ol>	6	64
Ugerah Abalu	<ol style="list-style-type: none"> <li>1. Met with Professor Meng Lu to discuss project plan for this semester and individual roles in the team</li> <li>2. Got started on plan for prototyping holder for LED and arduino camera</li> </ol>	6	58
Yifu Zhang	<ol style="list-style-type: none"> <li>1. Review what we have done in the last semester</li> <li>2. Talk with professor, make a plan for this semester, to improve our test result, and finally combine everything we have into a</li> </ol>	6	58

	prototype 3. Read the material sent by professor		
Kossi Eglá	1. Meet with professor Meng Lu to talk about the plan for the semester 2. Get some of the new materials we need for the semester, such as the camera, the wifi module.	6	48
Olouwole Eteka	1. We discuss in the meeting with professor about the sizes of the new overall design sign our camera changed. 2. We needed to go check out some new parts form ETG and the grad student.	6	48

o **Plans for the upcoming week**

**Meet with Professor in lab, he will teach us how to use the new lab facilities and get more detail about our plan.**

**Fabrication(Zheyuan Tang,Yifu Zhang):** We will receive new photonic sensor from Professor, and deposit Titanium dioxide on it.

**Instrumentation (kossi Eglá,Olouwole Eteka):** we will test the new components we received such us the wifi module and the camera. We are also going to find the right

range where the camera has the required focus to catch the wavelength emitted by the photonic sensor.

**Testing(Hao Wang, Ugrah):** We will apply the Ultra thin layer Chromatography on the new fabricated sensor next week.