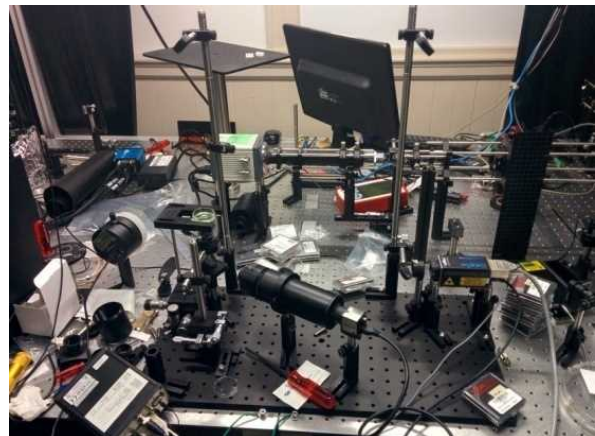
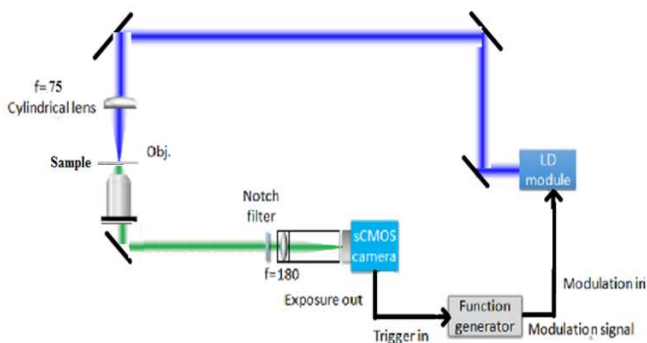


STEPS Students Report

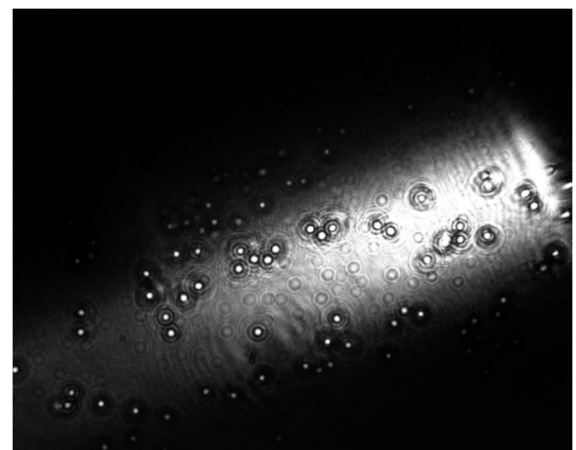
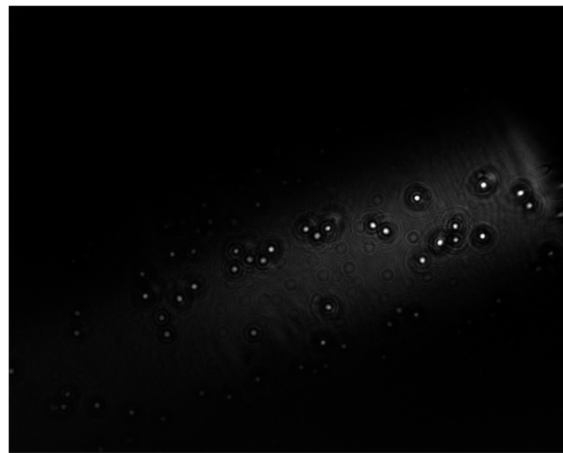
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The one-and-a-half month internship in laboratory of professor Goda was very enjoyable and interesting experience for me. Although the subject of laboratory is different from my own I was happy to participate in investigations professor Goda's laboratory. I was attached to scientific group under the direction of professor's assistant Hideharu Mikami. This group is engaged in researches in the field of ultrafast fluorescence microscopy. This science area is an indispensable tool in biology and medicine and it has wide application in imaging of fast flowing cells in flow cytometry. The collective in laboratory was very affable and amiable and I was very pleased to interact with the members of the scientific group.

I was given an individual task. I had to build an optical setup for observation a fluorescence of cells. This setup had to get images with excellent resolution. You can see the setup's scheme and photo below.



Initially I had to decide on the components which I could apply for my purpose. I chose the necessary components on ThorLabs company website which were ordered and delivered. The delivery took some time. At first test snapshots of beads were taken. After that human cancer cells snapshots were obtained. The images were taken with different exposure time and laser power. You can see cells fluorescence on the shots but also there is a scattered light. It interferes to obtain a good image at high exposure time.



One of the significant problems also was synchronization the camera and the radiation source. I had to synchronize the camera and the laser so that the constant laser with 405 nm wavelength did one shot and the camera took one snapshot. Eventually I did not make this task in time. But all the same this experience was very pleasurable and useful. I found out a lot of new and interesting.



It was interesting to me to discover as much as possible about a culture of Japan. Also I have visited a lot of places and saw many sights. I was able to take in all famous areas in Tokyo and visit some museums and Kabuki theatre. Japanese cuisine also is delicious and fantastic. I have visited Osaka and Kyoto and I have seen Fuji mountain very close. I was delighted with everything that I could see and taste in Japan. Also I could go to Japanese restaurants and 2 laboratory parties where I met with wonderful people.

The internship in Japan is incomparable and unforgettable experience. It was incredible chance to expand my worldview. I saw many new beautiful places and got fresh impressions. I am very glad that I was given such outstanding opportunity!