

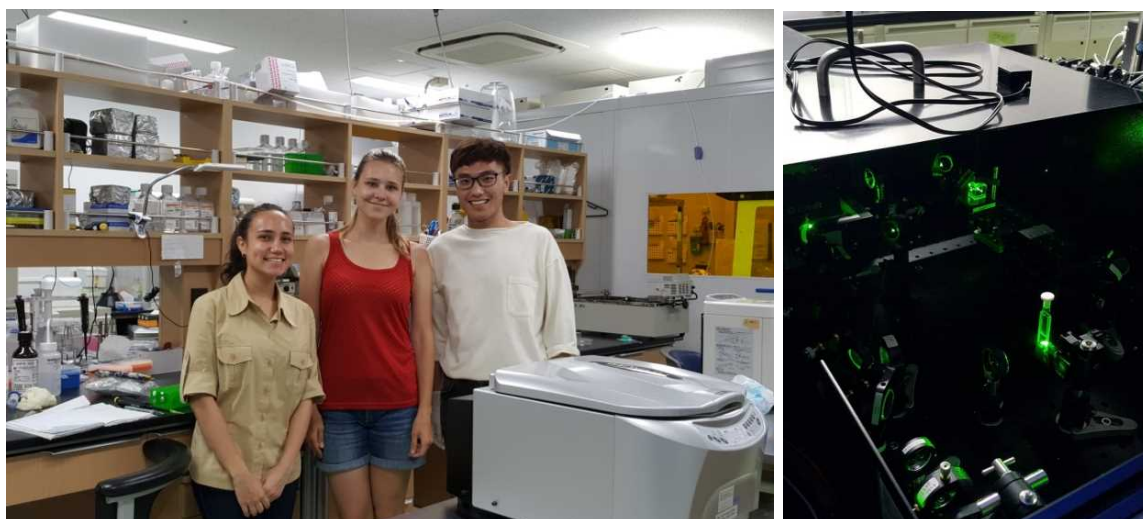
STEPS Students Report

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This summer I had a magnificent opportunity to spend six weeks in Japan investigating its cultural and scientific grounds. And first of all I want to thank STEPS program for this chance to explore so many interesting things at the Land of the rising sun.

My research is related to the study of prospective drug delivery systems. According to the World Health Organization tuberculosis still remains one of the top causes of death in the world. The long-term disease is treated by a complex therapy of a number of antibiotics. Thus the reduction of the side effects and the increase of bioactivity of the drug are very important. These goals could be achieved by encapsulation of active molecules using biodegradable oligosaccharides – cyclodextrins which are able to form noncovalent «host-guest» complexes.

STEPS program gave me the chance to join laser team at Professor Goda's lab at the Department of Chemistry, the University of Tokyo that works on constructing new research equipment and includes a lot of magnificent specialist in spectroscopy. The main aim of my exchange program was to study the physical and chemical properties of the "host-guest" complexes of anti-tuberculosis drugs fluoroquinolones with sulfobutyl ether β -cyclodextrin by Raman spectroscopy and compare the results with former data obtained by FT-IR spectroscopy.



All Japanese colleagues and other interns were kind and very friendly. I met a lot of new friends. Although I was working in individual schedule, I could always make a conversation with someone or go the canteen in a company. During the internship I studied the samples which had been brought from my laboratory. It was such a challenge to obtain and analyze the data, however my supervisor Hiramatsu-san and his team members were always ready to help. Likewise they gave me a lot of advices and ideas where to pay more attention and how to improve my future work.

Also I would like to stress that it was the first time in my research work when I was able to look inside the device, change and adjust some parts of the equipment. For me that was a great experience, because I learnt not only the theory of how the device work, but also took part in the process by myself.

At the end of the internship I was lucky to show the results at the lab meeting that is set each week. I was really amazed that many members of Professor Goda's lab were truly interested in my work and asked me a lot of questions.

In addition, it was great pleasure to travel through Japan: I spent the weekend in Kyoto and visited a plenty of outskirts of Tokyo (Nikko, Kamakura, Enoshima, Hakone, Joga Island). I had significant experience of exploring Japanese culture, traditions and lifestyle.

During the internship I've learned a lot about lasers and Raman spectroscopy and microscopy that obviously gave me a huge step in my research work and self-education. Moreover I was able to discover the unique faraway country as a neighboring resident, saw a lot that is not mentioned in any tourist guidebook.

Finally I want to thank again STEPS program and all the members of Professor Goda's lab for such a marvelous journey and wish them all the best!