This time I felt very lucky that I can join this program and I will be glad to work with these nice people after I visited professor Hamaguchi's lab. In the three weeks, we have experienced academically the high level of the world's best lab of laser and Raman spectroscopy. Besides, a great group chemistry or well-developed research atmosphere is shown; people in the lab can focus their efforts on their research interests and what they plan to do.

After informed of the admission, we kept contact by email with Miss Huang, a Taiwanese D3 student in the lab, to check the schedule and prepare some background knowledge by reading the papers sent by Miss Huang. From the representative papers, I realized their recent works of Raman spectroscopy. Most interesting, they had developed a new way of studying the living cell by impinging a laser beam on it and then measuring the Raman spectra. Because I had studied biochemistry in our college, I had found myself interested in life science, so the new topic draw my attention.

The day we took the plane to Tokyo we met professor Hamaguchi first. I told him my thoughts and found he could get my points. He said they indeed had made a great move and gotten some good results although they used to study physical chemistry. He also emphasized the importance of integrated research.

The first several days we joined their seminar and group meeting to understand what they were doing and experience how a meeting was held. In a meeting, every speaker could discuss his problems with the professor and other members without fear. Everyone enjoyed and treasured the opportunity of discussion. Definitely I think it a good phenomenon. We should make an improvement about this point in Taiwan. One thing I should mention here is about Mr. Watanabe's great patience. Because of unacquaintance I asked about 10 questions to him while he was giving a talk about band shape analysis. He not only explained these theories to me plainly and thoroughly but also showed his previous work as examples to help me understand. I will mention another thing later to prove he is really a nice guy.

On July 16-18 almost all people in the lab went to the summer school, including Mr. Wu and I. We listened to the speeches from many members about their works and knew more about Raman and laser. Mr. Naito's talk about arming yeasts was very interesting to me so I asked a question in my poor English. Finally he knew what I was asking and gave me an answer. It gave me a lesson I should improve the skill of expressing myself in English.

After summer school we met the professor to check what kind of experiments we'd like to see. I guessed I had rubbed the professor a little when I said the word "ambiguity." Instead of getting furious, he explained the whole situation and elucidated what are discovered and well-understood and what needed efforts to explore. Again I learned from him about how to explain one thing clearly by

separating it into several main points and how to control one's temper as well. Eventually we established several common understandings. From July 26 to 28 each day there would be a student leading us to get involved in the experiments.

On July 21-23 we went to Hamamatsu to join a conference about the application of spectroscopy into medical use, especially to treat cancers. Tony Parker, Head of Lasers for Science Facility, who was from Rutherford Appleton Laboratory, UK, was a friend of professor Hamaguchi and came with us to give a speech in the conference on July 21. Tony was very humorous and he could describe some abstruse things in a simple way to let us understand what his work was. The most amazing was the Kerr gated Raman spectroscopy, which is used to reject the influence from fluorescence. Thank to the new technique, he could measure the Raman spectra of Rh6G, a kind of material which is usually used by engineers to generate strong fluorescence. Most of the rest presentations are carried out in Japanese and even the slides are all written in Japanese. I thought it a great trial for me so I tried to figure out what these researches were and to grasp some points out. At least I gained some knowledge of new treatments or examines of cancers. For example, mass, NMR, and NIR Raman spectra could be used as tools to examine the existence of cancer cells in the early stage.

At the end of the conference the boss of Hamamatsu Photonics invited all conferees to visit his factory and central research center. The most impressed is the night vision scope and the high performance of PET scan they were developing. They showed us their automated machine for quick synthesis and the related facilities for PET scan. There was even a special tiny PET scan for small animals!

On July 25 professor Mohan Srinivasarao visited the lab and gave a talk about bioaxial liquid crystal. Mainly he used cyclodextrin to trap the dye and therefore a liquid crystal formed. It seemed his work of this aspect just started so he needed Raman spectra to find out the structures. After the speech Mr. Kano (Assistant) took him to see the facilities and the experimental setup, and we went together. It was the first time I could roughly see the whole setup with Mr. Kano's explanation.

On July 26 Mr. Shigeto led us to see he conduct his experiment. He explained the setup to us including even the step of warming up. He also uncovered the shell of lasers and OPA systems to tell us how the laser beam went. It was the first time I saw working laser instruments. I could see the beam go through or reflect from a component of the instruments. The most exciting is I could see the second harmonic of a beam happen in front of me! I could easily the change of colors! It was beautiful and amazing…of course useful as well. After modified the power and check the way of laser beam, he could start the experiment. Unfortunately, we couldn't see a fine peak on the monitor. So he told us to come out and wait because he would like to use a spraying apparatus to check the signal of benzene. Soon he successfully showed the

fine spectrum he'd planned to show us.

On July 27 Mr. Shimada gave us a different experience about his experiment. In his experiment, all lights should be turned off if possible because of the weak CARS signals. The exposure time and the number of scans were to be large to get a better S/N ratio. Therefore, he usually got the result once an hour. I thought it could help a man develop his willpower and perseverance. Mr. Wu thought it as good chance for a researcher to think about his experiment. We could easily see the strong interference from the stray lights and the intensity of the weak CARS signal was often less than one percent of that of the stray light. The night of the day the members held a farewell party for us. Everybody drank a lot and had a great fun. It was the first time I could strongly feel the enthusiasm and warm of Japanese.

On July 28 Miss Huang showed her Raman microscope of living yeast cells. Before she started, an accident happened. It was a power failure of a small region and indeed let her decide to cease. Fortunately Mr. Kano was preparing his small setup for high school students. He kindly established it and told us the details at the same time. I haven't seen a setup being built. He checked the components to and fro to optimize the whole setup. Seeing the process did help me a lot. It inspired me that I should maintain my courage and will to the last minute whatever I did.

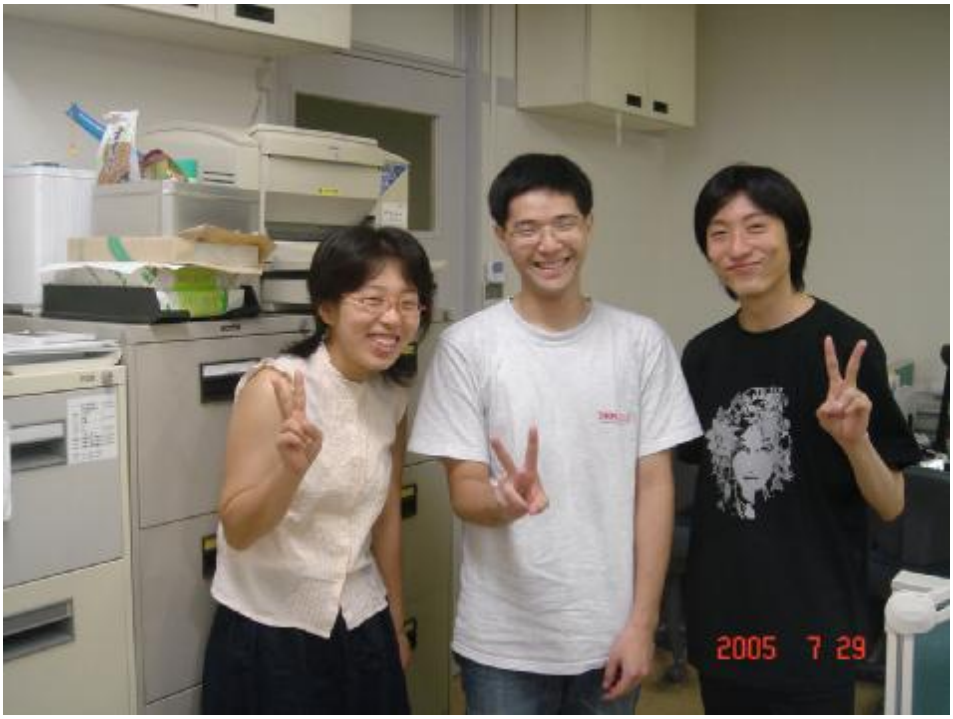
At the end of my essay, I'd like to appreciate the help from all of the members one more time. I could feel people here are very nice and the environment is good for research. Besides, Miss Huang acted as a babysitter to take care of our lives in Tokyo. She not only reminded us some important points the professor had said in the group meeting but also cared about the improvement of this activity even she was going to leave the lab. By the way, the apartment we stayed when we were in Tokyo was bigger than I expected and contained everything we needed, including the SPA! It was Miss Huang who had chosen the apartment before we arrived at Tokyo.

This activity we have joined is very suitable for students. First, the lab offers a quiet and comfortable place nearby to live without asking students to pay for it. We could just walk for 15 minutes to the department of chemistry. In addition, eating in the COOP and restaurants in the University of Tokyo costs little money. We can enjoy the large size meals without worrying the price. Last but not least, people in the lab work together like a warm family. They help one another and reach their goals. Take our leave for example. Mrs. Arai and Mr. Watanabe not only told us how to get to the platform of Shinkansen in Tokyo station easily but also saw us leave by bus. I sincerely hope I can meet these nice guys and even work with them in the future.

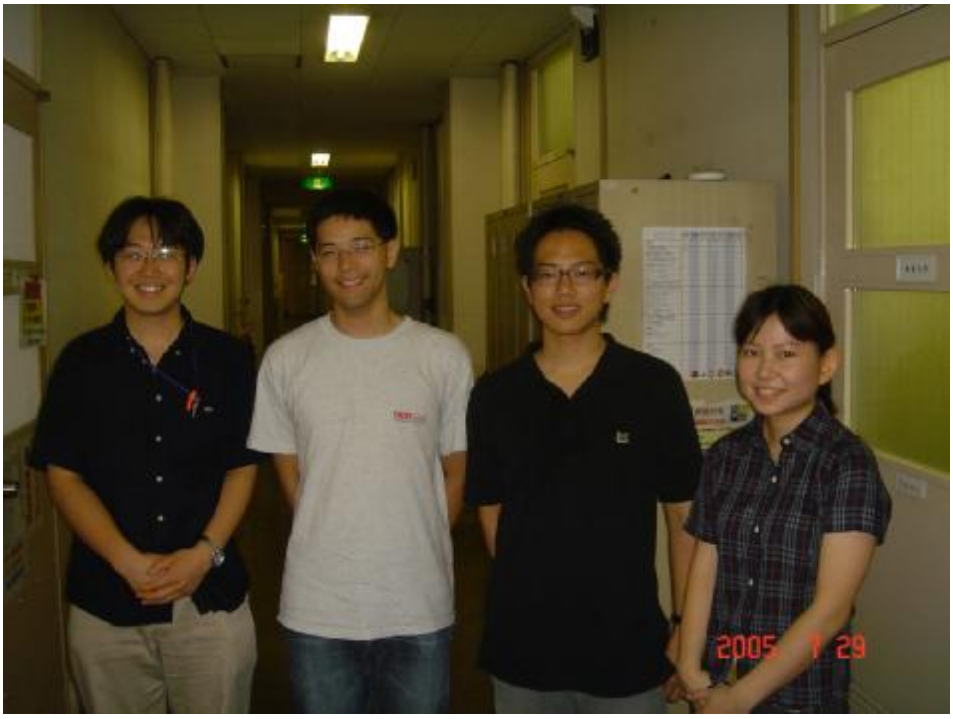
Here are some photos:

Mr. Wu and I outside the dormitory which summer school was held
The lady standing on the left side is Mrs. Arai, and the man sitting on the stairs in front of the door is Mr. Shimada.

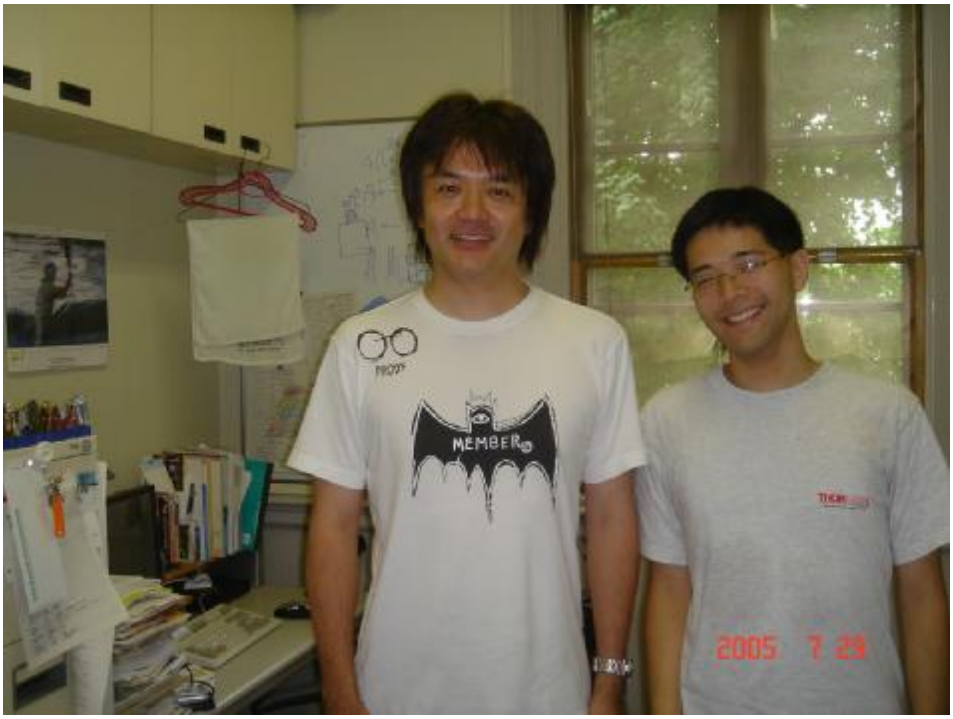
I, Mr. Wu, Miss Huang, and professor Tony Parker (from left to right) in the Hamamatsu Museum of Musical Instruments



Mrs. Arai, Mr. Watanabe, and I (from left to right) in the room 2013

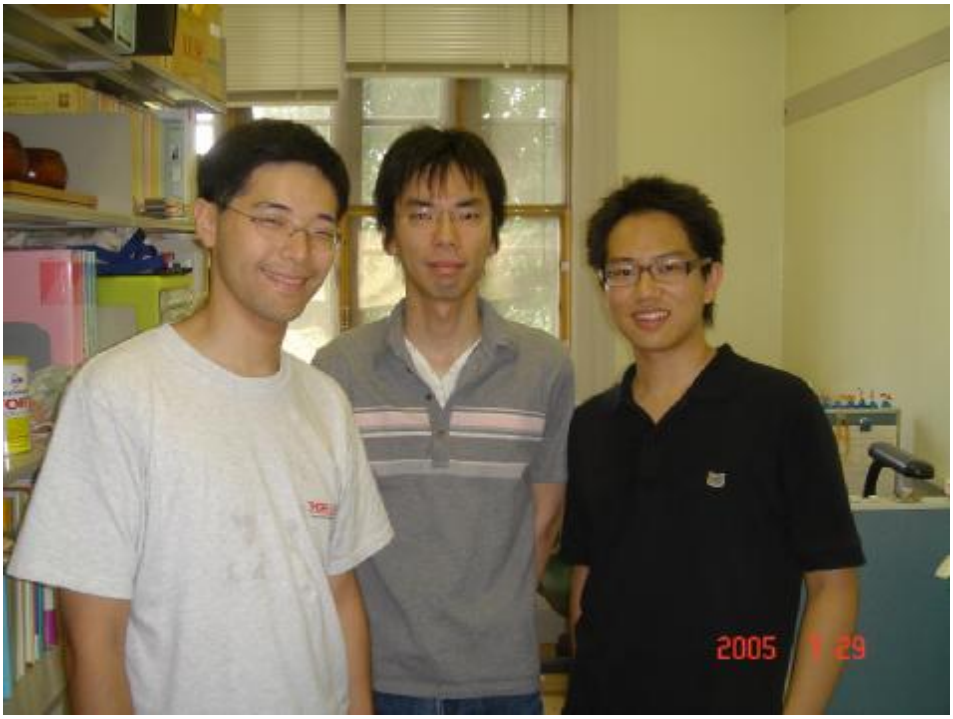


From left to right: Mr. Kano, I, Mr. Wu, and Miss Miki



Mr. Sato and I in his room

Mr. Yoshida and Mr. Wu in front of the front door of the department of chemistry



Mr. Shigeto and we in the room Mr. Wu studied in

Professor Hamaguchi and we standing outside the restaurant in which we ate as a farewell meal