

## **STEPS Students Report**

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The subject of my research work was to study of image reconstruction in the FDM confocal fluorescence microscope based on wavelet transformation for higher resolution images and more detail information compared to other processing methods within a Prof. Keisuke Goda and Asst. Prof. Hideharu Mikami during three months. The topic, which I studied during my stay, was ultrafast fluorescence lifetime imaging microscopy using frequency-division-multiplexed confocal fluorescence microscope. Unfortunately, three month was too short for a complete research, but it was enough time to familiarize with basic LabVIEW programming techniques and signal representation through transforms: the Fourier transform, the short-time Fourier transform and the wavelet transform, and applying wavelet transform for image reconstruction in the FDM confocal fluorescence microscope. Asst. Prof. Mikami had provided me many useful information about this topic. Besides, every Wednesday employers of Goda lab organized seminars where one its member had presented his results to everyone. It was very interesting for me. At one of these seminars at the end of my internship, I presented my final study report. During my internship a Master's student Hiroshi Kanno also helped me a lot with my research. All members of Goda lab have always time to help me and answer all questions. On weekends, we often traveled somewhere and enjoyed time. It was wonderful. Also, thanks to a great opportunity to attend Japanese language courses for beginners at the University of Tokyo, I am able to talk in Japanese a little bit. And it was interesting to me to discover as much as possible about a culture of Japan. I was delighted with everything that I could see and taste in Japan.

I am very grateful to the administrations of both Moscow State University and the University of Tokyo for such opportunity to participate in this program. It was incredible chance to expand my worldview, incomparable and unforgettable experience.

