STEPS Students Report

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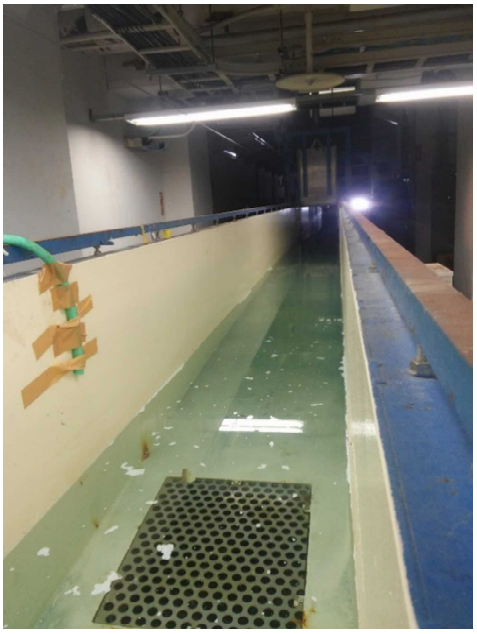
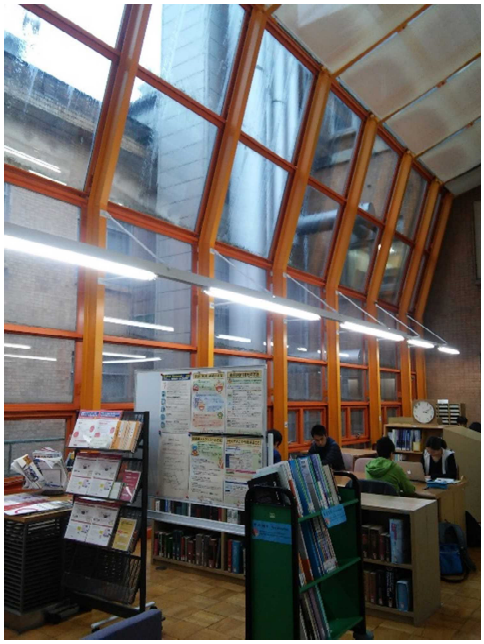
As my colleague and me were the first participants from the Oceanography department (Saint Petersburg State University), our main goal was to get familiar with the main research topics and people of the Coastal Engineering Laboratory. Shortly after our arrival, with the students from the coastal laboratory, we participated in the field trip to the Shizuoka prefecture to make the measurements of the Fuji coast. In particular, we took photos of the area of 1 km per 500 m from two lab drones from two different heights. This area was thoroughly recorded using GPS and later was presented as the 3D map, which will later be used in the numerical models along with the SAR satellite data and SWAN modelled wave data.

Some days later, we also observed the experiment set using the Oscillatory Flow Tunnel and tracers in order to simulate the incident gravitational waves and coastal erosion caused by them. The obtained results were to be used in the master's thesis of the student from Sri Lanka. The lab consists of people from different countries like Philippines, Indonesia, Turkey etc. In spite of such multicultural diversity, everyone there was friendly to each other and STEPS participants, and eagerly shared new information about their research. Thanks to those discussions as well as the weekly seminars, we saw a wider picture and got familiar with main interests of this department, their huge necessity and ways of using theoretical basis that we study and evolve in our own department.

Furthermore, during the lectures by Shimozono-sensei we obtained new ideas and comprehension how theoretical studies of the high-frequency waves are applied to the real problems of the coastal regions. Model of partially standing wave was suggested for the large-scale motions in the closed seas.





Moreover, Professor Tajima shared papers on the spatiotemporal wavelet analysis, which can be applied to the altimetry data usually used during oceanographic researches. An access to the wide variety of books in the libraries of the University of Tokyo also allowed us gaining new information on methods used by the lab staff. Our host professor introduced us to other professors from the Earthquake (Prof. Satake) and Oceanography departments (Prof. Hibiya). Though the latter should be our primary host department, I believe that being welcomed by engineers was really refreshing in terms of our perception and helped us broaden our personal horizons. These professors taught about the methods of calculating own oscillations of the Japan/East Sea, which should be later compared to the results obtained by researchers of our home department. We discussed the possibilities of further student exchanges and joint researches. During this trip we learnt how to use various gadgets and computational methods, solve mathematical problems for the case of coastal regions,

enlarge our scientific human network, get familiar with the Japanese culture, make several trips around Tokyo and its suburbs and what is more important - get new friends. We are especially thankful to the STEPS program for that.