

## STEPS Students Report

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In Russia, I was accepted and joined in a laboratory in the Soil Science Department of Earth Science Institute, where I studied the soil mechanics, geology, geography, ecological function of soils and so on. During my stay in Saint Petersburg, I participated in a lot of classes, which were held by Professors only for us in Soil Science faculty, and visited Soil Museum in the city central. In experiences, I could get some knowledges relating to Soil Sciences.

The list of classes held in Russia is below.

	Name of lecturer	Position	Contents of the class
1	Kasatkina Galina Alekseevna ( Tel. 8 911 209 07 09)	assistant professor	Geography of soils, soil mapping, soil environmental monitoring
2	Popov Alexander Ivanovich (Tel. 8 921 409 30 87)	professor	The biological correction of plant productivity
3	Romanov Oleg Vasilevich (Tel. 8 903 093 07 98)	assistant professor	Physics of soil and short description of research methods used for soil analysis.
4	Rusakov Alexsey Valentinovich (Tel. 8 911 245 93 64)	professor	1. The world of soils – Russia. 2. Paleosols of periglacial zone of Upper Pleistocene
5	Ryumin Aleksander Georgievich (Tel. 8 904 331 54 41)	senior teacher	Research methods in soil science
6	Sukhacheva Elena Yurevna (Tel. 8 921 388 98 59)	assistant professor	World day of soils
7	Fedorova Nina Nikolaevna (Tel. 8 911 221 54 57)	assistant professor	Ecological functions of soils. Influence of oil contamination on physical parameters of the contaminated soils.
8	Chukov Serafim Nikolaevich (Tel. 8 911 914 39 87)	professor	Ecological regulation of soils.
9	Shtangeeva Irina Vladimirovna (Tel. 8 951 672 88 60)	researcher	Phytoextraction of toxic trace elements from contaminated soils and liquid wastes

In each class, students were only us, Yuki Kagami and me. Therefore, we could easily ask questions to lecturers and understand more deeply. Ms. Irina, who is the researcher of the faculty, became a translator in some classes because lectures cannot speak English at all. Therefore, I would like to thank her especially.

I will introduce some of the lectures in this report because it is hard to write about all classes in 500 words.

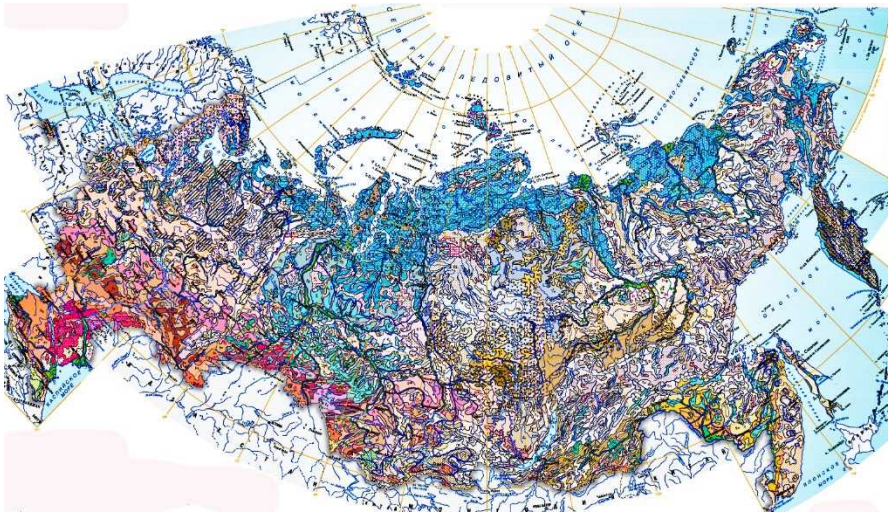
In the class No.5, senior teacher Mr. Alexander taught us common research equipment used in the soil science field. SALD-2201, shown right picture, is the



machine to classify soil particle's size and shape. CHN628, the picture below, is the machine to analyze elements of soils. Through this lecture, I could understand how researches are conducted in soil science and

some differences from soil engineering methods.

In class No. 1, 4, and soil museum, we learned about geology, Russian soils and history of soil sciences. The beginning of soil science was 18<sup>th</sup> century, Russian scientist Dokuchaev started to study soils by scientific way and made first soils map and climate classification map. Therefore, it can be said that soil science started from Russia. Relating to Russian soils, we studied each characters of all Russian soils. It is very famous though, Chernozem is the most important soil in Russia because of its fertility. We could see real Chernozem soil in the soil museum (right picture). In these lectures, we could widen our knowledge from the viewpoint of geology.



**Maps of Russian soils**



**Chernozem**

In lectures No. 2, 3, 8, we studied about ecological function of soils and contamination of soils. In general, we do not study about ecological aspects of soils in engineering. Therefore, it was really interesting for me getting new knowledge relating to that. According to the lectures, soils have an important role for organisms. It creates energy from sun light, and supply it to all organisms. Some Professors told us that we could control its mechanism by adding some chemicals to soil, although there are many factors and it is difficult to control it perfectly. The most interesting thing for me was that slopes can make the difference of humic acid amount and it changes the property of soils depending on the position in a slope. I also learned about contamination of soils. Some lecturers taught us soil contaminations in Russia (shown picture on the right) and how oil in soil affects on soil's behavior. One of the methods to detox contamination in soils, it was taught that some plants can take toxins from the soils. It was interesting because I heard that some company buy the plants to produce heavy metals or something from these plants.

Overall, all classes were high quality and helpful for our study. It was wonderful the time I spent in Russia.

Other than the classes in the department, I had the chance to visit some sightseeing sites in Saint

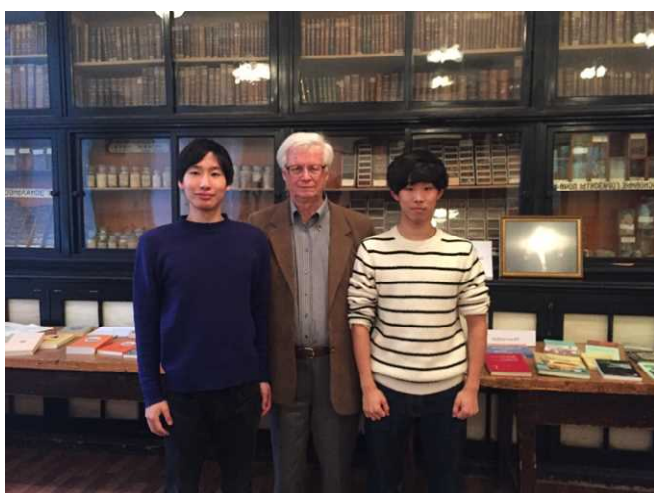


- |   |  |
|---|--|
|  Water erosion |  Solonetz complexes           |
|  Deflation     |  Desertification              |
|  Over wetting  |  Lands overgrowing            |
|  Water-logging |  Radionuclides contamination  |
|  Salinization  |  Degradation of deer pastures |

Petersburg. I visited many historical buildings with my friends who I met in Russia. It was wonderful and very beautiful.

It became one of the best memory in my life. As another cultural experience in Russia, I noticed that Russian people are friendlier than Japanese people are. They do not look very kind though, people always tried to help me when I was in trouble even if they cannot speak English. It was big surprise for me. In Japan, people try too hard to use correct English, resulting to situations where they give up or become shy, when they cannot say something in the correct grammar in English. On the other hand, Russian people are not very good at English though, they have the intention to try to speak and let others understand their feelings. I thought Japanese people should speak more as well as Russians.

Overall, I had many positive experiences both academically and culturally, and I would like to thank everyone who helped me along in this program.



**Professor Boris Aparin**



**Professor Popov Alexander Ivanovich**