

Form B-5

Date (日付)

1 October, 2013 (Date/Month/Year: 日/月/年)

Activity Report -Science Dialogue Program-
(サイエンス・ダイアログ事業 実施報告書)

- Fellow's name (講師氏名): Rustam T. OROZBAEV (ID No. P12026)
- Participating school (学校名): Fukui Prefectural Fujishima Senior High School
- Date (実施日時): 27 September, 2013 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Geology, metamorphism and metamorphic rocks: Why to study?
(in Japanese) 地質学、変成作用と変成岩 : なぜ勉強する
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

My talk at Fujishima High School is mainly divided into two parts: 1) introduction of my home country of Kyrgyzstan and myself, and 2) I talk about science and show how geologist carry out field works and do laboratory analysis, and explain why I became a geologist.

Part 1. Introduction to Kyrgyzstan

My home country is located in Central Asia, and it is a small country with total population of 5.5 million people. Kyrgyzstan is landlocked and mountainous country with highest point of 7439 m (the Jengish peak). More than 90 % of its territory covered by mountains, which is good place for geologist to study different geological processes. During my talk, I will also briefly touch the history, landscapes and Kyrgyz cultural aspects (traditions, closing, food and making Kyrgyz style felt carpets).

Part 2. Geology and Science

In this part, I will introduce the general information about geology, metamorphism and metamorphic rocks. Geology is the science that deals with the Earth's structure, the rocks of which it is composed, its history, and the processes that act on it. Starting from the Earth's formation at 4.56 billion years ago up to now, the Earth has been experienced complex and numerous geological processes. For instance, the movement of Earth's plates is responsible for the cyclical opening and closing of ocean basins, and forming and breaking-up of supercontinents (Plate tectonics). Geology has many branches and one of them is the Metamorphic Petrology that studies metamorphism and metamorphic rocks. Metamorphism refers to changes in rocks' mineralogy, texture and composition that occur mainly because of temperature, pressure and fluids. Metamorphic rocks are rocks that have undergone these changes at shallow to great depths. Metamorphism is the most dominant process that taking place throughout most of the Earth's crust and mantle.

Therefore, by studying the metamorphic rocks cropped out in some suitable areas we can reconstruct the geological processes in the past and give contribution for better understanding the Earth's evolution. For this purpose, the geologist first carry out fieldwork that include mapping and collecting rocks

(samples) to be studied. Then the collected samples are analyzed in the laboratory. Laboratory work includes petrographic description of thin-sections (made from rocks) by microscope, chemical analyses of minerals by Electron Probe Micro Analyzer, and then interpretation and discussion on the results with implication to the tectonic evolution of the area.

As an example, I will demonstrate each steps in detail (starting from the fieldwork to data interpretation) on the basis of my Master thesis on the metamorphic rocks from the Aktyuz complex in Kyrgyz Tien-Shan Mountains. I will try to convince you that being a geologist is a 'romantic' profession and try to show how is quite interesting to decipher the 'puzzle' of geologic processes hidden in a piece of rock.

- Language used (使用言語): English and Japanese

- Lecture format (講演形式):

◆Lecture time (講演時間) 65 min (分), Q&A time (質疑応答時間) 20 min (分)

◆Lecture style (ex.: used projector, conducted experiments)

(講演方法 (例: プロジェクター使用による講演、実験・実習の有無など))

Projector was used with Power Point presentation slides. For demonstrations, the metamorphic rocks collected from Kyrgyz Tien-Shan Mountains and Sambagawa belt (Japan) were brought to the school. Also, thin-sections made from those rocks are demonstrated with two portable microscopes.

◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

some Japanese explanation is provided myself and assistance by teacher of Ms. Kotoe Ito

◆Name and title of accompanied person (同行者 職・氏名)

none

◆Other note worthy information (その他特筆すべき事項):

The students are smart and their English language level is good enough. Ms. Kotoe Ito was very kind and her assistance is greatly appreciated.

Impressions and opinions from accompanied person (同行者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。)