

Geochemical education in a laboratory of Tokai University, Japan

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The graduation work is a tradition in Japanese Universities. A private University, Tokai University also keeps the tradition. The fourth-year student belongs laboratories headed by professors. They work over one year as researchers in laboratory. At the end of work, usually in February, they present the result of work in front of their friend and professors as similar as academic conferences. My laboratory usually accept 6 students every year. The themes of graduation work in 2015 were,

- 1) Volcanic gas at Mt Hakone,
- 2) Volcanic gases at Mt Kusatsu-Shirane and Mt Nasu,
- 3) Geochemistry of groundwater around Mt Fuji,
- 4) Alteration of igneous rock,
- 5) Geochemical map,
- 6) Chemistry and isotope ratios of meteoric water.

I belong to the department of chemistry, school of science, therefore, the background of students is pure chemistry. Geochemical knowledge of them is limited. I give the lecture on geochemistry for the third-year students. The lecture could be a good introduction for my laboratory.

The graduation work in my laboratory is based on the sampling in field and analysis in laboratory. For example, I bring student every month to Mt Hakone. The students sample fumarolic gases with some in situ measurements. The obtained samples were analyzed in terms of inorganic composition and stable isotope ratios.

An interesting variation was found for the fumarolic gases at Mt Hakone in 2015. The result was submitted to the Japanese governmental committee for the prediction of volcanic eruption. The students in my laboratory enjoy their works. Some results of work contribute the mitigation of volcanic hazard.