

(For JSPS Fellow)

Form B-5

Date (日付)

16/07/2013 (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): Gedeon, Csongor Istvan (ID No. P12805)

- Participating school (学校名): Osaka Tennoji High School

- Date (実施日時): 16/07/2013 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) 3 parts: 1. Hungary and Japan, 2. A few words about science and career, 3. Why soil fauna (土壌動物相) is important and how can we measure them? EDAPHOLOG System, a new, automated system for monitoring soil fauna

(in Japanese)

- Lecture summary (講演概要): Please summary your lecture 200-500 words.

A few words about science and carrer

The life of a scientist involves searching for the organized (まとめられた), testable (検証できる) knowledge of the real world, of everything around us, as well as ourselves, as opposed to the endlessly varied strong feelings people hold from myth and superstition. But at the same time it is a simple carrer that one can take. In this talk I tried to share with my thoughts and experiences on how to be a good scientist. Certainly, these ideas were not merely my ideas but I would rather say that if students take a look at science as a career these things would come up into the mind and I think it was worth sharing these with them because it may help them succeed if they choose this path in the near future, first as a bachelor, then as a master and finally as a doctorate student.

Why soil fauna (土壌動物相) is important and how can we measure them? EDAPHOLOG System, a new, automated system for monitoring soil fauna

Soil organisms provide important ecosystem services and contribute fundamentally to plant health and water dynamics. The good quality soil is as important and as valuable as clean air or clean water. Soil organisms drive i.e. organic matter decomposition and mineralization, nutrient release to plants, degradation of pollutants, carbon cycling and sequestration, nitrogen cycling, etc.

Type and number of soil organisms, i.e. bacteria, fungi, protozoa, nematodes, arthropods, earthworms, and their biological activity varies substantially both seasonally and daily because of

varying temperature, moisture, aeration, pH, pore size, and types of food sources of the soil. For sustainable use of soils it is crucial to possess tools and methods that can estimate or most preferably directly measure the diversity and number of zoological groups, and follow those changes in time or space.

To maximize the services the soil provide us it is inevitable to monitor and examine the quality of the soil and to foresee if they are prone to degradation or to forecast if disadvantageous processes are in progress. Although measuring biological soil activity would allow us to manage our land use practices and to assess the quality of soils more resource-efficiently it is still a difficult task because of the lack of adequate, reliable, easily applicable monitoring methods.

The recently developed and engineered soil environmental monitoring device, called EDAPHOLOG System, has been constructed for real-time, in situ monitoring of soil organisms, more exactly ground-dwelling arthropods.

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

- Lecture format (講演形式):

◆Lecture time (講演時間) 70 min (分), Q&A time (質疑応答時間) 30-40 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, DVD, exhibition of the device

◆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))

Assistance be accompanied person (master student), Japanese translation of the bottom-line and some Japanese slides

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

Mr. Imanaka Shinsuke, master student

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

There were many questions at the end of the lecture consequently students must have understood the content (more or less).

- 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。):
