Must be typed
（For JSPS Fellow）

**Form B-5**

Date （日付）

23/10/2014（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: Iraklis Boubourakas （ID No. P14077）

-Participating school（学校名: Ichikawa High School (Ichikawa-city, Chiba)

-Date（実施日時）:15 10 2014 (Date/Month/Year:日/月/年）

-Lecture title （講演題目: Viruses as plant pathogens （in English）

植物病原体などのウイルス （in Japanese）

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

Fungi, bacteria, moliqutes, higher parasitic plants, viruses and viroids consist the main causes of plant diseases. While fungi and bacteria are the most known, viruses are of great importance mainly due to the high economic loses that they can cause to plant crops worldwide. A good example of virus importance is that of Citrus tristeza virus which is responsible for the destruction of million citrus trees. Viruses are characterized by small size, they can only be observed under an electron microscope, they are obligate intracellular parasites (do not have the molecular machinery to replicate without a host) and are composed of a coat of protein, which surrounds the viral genome (RNA or DNA). There are viruses of rod-like, filamentous, isometric, bacilomorph or twinned isometric shape. They can cause symptoms on leaves, fruits, flowers, roots, and stones of infected plants. The virus caused symptoms varies from mosaic, spots, deformations, breaking color, necrosis, dwarf etc. Plant viruses are transmitted usually thought vectors like insects (aphids, trips, beetles, hoppers etc), nematodes, pollen, with vegetative propagated material and through wounds. The main viruses control measures are protective ones, like exclusion of viruses from a country (Quarantine, phytosanitary measures), exclusion of virus from the planting site (use of virus free plants), reduction of virus sources (eliminate alternate hosts and weeds), reduction of virus spread (control of the viruses vectors) etc.

The application of virus-containing plant extracts (i.e. Inoculum) to the leaf surface of healthy plants called mechanical transmission. But, in order for the virus particles to penetrate the cuticle and epidermis of a healthy leaf, the surfaces must be artificially wounded using abrasives. Of course not all plant viruses are mechanically transmitted. A very important step in the process of mechanical transmission is the Selection of Indicator Hosts. Indicator hosts react diagnostically to certain viruses. They can be used to distinguish between viruses, usually by observing immunity to one and susceptibility to the other virus or by observing different types of symptoms. Very important in this process is also the selection of the appropriate buffer used for the extraction of the plant virus and especially its ionic strength and pH value.

After the inoculation procedure is completed the symptoms observation step s following. Usually, we can record the following: a)Local lesions on the inoculated leaves, b) Systemic symptoms or c) No symptoms

The explanation for no symptom expression should be one of the following:

a) Although the virus has invaded the plant and is multiplying, no host reaction is visible. Either the plant is tolerant to the virus or the symptoms are masked by environmental conditions. b) Although, the virus has entered the plant, it is not multiplying and invading other parts of the plant, and no symptoms are produced. The plant is resistant to the virus. c) The virus has not entered the plant; the plant is immune to the virus

-Language used （使用言語 English

Lecture format（講演形式) Power point:
◆Lecture time （講演時間）90 min（分）, Q&A time（質疑応答時間）10 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）
(Lecture was given and an experiment was conducted together with the students）
◆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）
Interpretation when needed was provided by the accompanying person ）
◆Name and title of accompanied person（同行者職・氏名）
Ms Nao Ota
◆Other note worthy information （その他特筆すべき事項）：
-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。
Ms Nao Ota was very helpful and willing every time to confer her help not only to me but also to the students.