

(For JSPS Fellow)

Form B-5

Date (日付)

17/10/2017 (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): ZHANG Guoyou (ID No.P16096)

- Participating school (学校名): Soka Senior High School

- Date (実施日時): 16/10/2017 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): Rising CO₂ threatens food security

- Name and title of your company (同行者 職・氏名)

- Lecture format (講演形式):

◆Lecture time (講演時間) 80 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))

used projector

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

At the beginning, the facts, effects and reasons of global warming and climate change were introduced to the students. Among the climate factors, rising atmospheric CO₂ stimulate C3 plant photosynthesis and the net primary productivity, which is known as the CO₂ fertilization effect (CFE). Improving CFE on crops may help us to enhance crop yield and growth-stimulated plant may absorb and fix CO₂ at the same time, which is a win-win strategy for adapting agriculture to the climate change. Thus, results from the early studies on the crops responses to elevated CO₂ as well as some latest results from rice FACE (free-air CO₂ enrichment) studies were shown to the students. Strategies for improving CFE through cultivar selecting and agricultural practice were discussed. In order to make the lecture easy-to-understand, some fundamental knowledge on rice were introduced, such as: process of planting rice, different growth stages in rice, panicle structure and grain quality of rice. The beneficial effect of rising CO₂, which is the CFE is likely to be easily offset by warming and rising CO₂ induces global warming. Even worse, rising CO₂ degrades grain quality. Thus, rising CO₂ threatens food security. After the science part, some information about my home country and personal experiences were shared. Daily life and work of researches as well as the reasons to become a researcher were then introduced. At last, the importance of learning English was emphasized. Some questions asked by the students were answered after the lecture.

- Overall advice or comments to future participants in the program (今後の講師へのアドバイス):

I have discussed with some students after the lecture, some of them can understand the lecture well, however, some of them couldn't, mainly because of the English. It may be better to prepare some translations of English to Japanese when giving the lecture.

- Other noteworthy information (その他特筆すべき事項):

The students are highly educated and very positive, asking lots of questions. Both of natural and social sciences were included in the questions which need to be answered from international perspectives.

- Impressions and opinions from a company (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。)