Must be typed

（For JSPS Fellow）

Form B-5

Date（日付）
21/09/2015 （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）: Alisa KONGJAIMUN （ID No. P 13514 ）

- Participating school（学校名）: Chiba Municipal Chiba High School

- Date （実施日時）18/09/2015 （Date/Month/Year:日/月/年）

- Lecture title（講演題目）:（in English） Agricultural Sciences: The importance and the impact on plants in the word

（in Japanese）

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

This lecture was divided into 4 parts;

Part 1: *Agricultural sciences helps the world hunger!*

I described what the importance of agricultural sciences is, and the impact on plants in the word. Plant is a large sources for food production but plant could not grow and produced enough yield to meet the need of world population due to various environmental problems such as saline soil, alkaline soil, flooding, pest and disease etc., Therefore, scientist are finding ways to improve crop varieties in order to resolve those problems. Among technologies development, `agricultural biotechnology` is the most effective if we want to further reduce malnutrition and starvation and meet the needs of growing populations. Agricultural biotechnology is one of agricultural science field, is a collection of scientific techniques used to improve plants, animals and microorganisms such as genetic engineering, tissue culture, marker-assisted selection and genomic analyses. Biotechnology promises to reduce world hunger by improving local productivity by adapting crops to local climates and soils; increasing yield by making plants stronger and more pest-disease resistant; making plants more nutritious by creating plants with higher vitamin and protein content; and making produce more affordable on the world market.

Part 2: *The genetic of domestication of yardlong bean (my research)*

In this research, I developed the genetic linkage map resolves the 11 chromosomes corresponding to the haploid chromosome number of yardlong bean. It contains 226 SSR markers from three *Vigna* species of two different origins, Africa (cowpea) and Asia (azuki bean and mungbean). I identified QTLs for 23 domestication-related traits (2 qualitative and 21 quantitative traits) in the F_2 and BC_1F_1 populations. The 21 quantitative traits were dissected into 153 QTLs. I successfully identify genomic regions that contain QTLs involved in the evolution of

yardlong bean from wild cowpea, especially pod length which is the main character differentiating the two taxa.

Part 3: *Welcome to Thailand*

The population of Thailand is estimated at about 69 millions. Thailand is divided into 77 provinces, which are gathered into 6 geographic regions (North, Northeast, Central, East, West and South). Each of the six geographic regions differs from the others in population, basic resources, natural features, and level of social and economic development. Why you should travel to Thailand? It was described in this lecture consist of 1. Thai foods are delicious, 2. Year round sunshine, 3. The land of smiles, 4. Amazing Thailand, and 5. Bangkok: The largest and capital city of Thailand, highlights the heritage and nightlife of the Thai culture with floating markets, temples, local cuisine and rooftop bars.

Part 4: *On the way to being a scientist*

Over several years I have learnt about agricultural sciences, I get to do lots of interesting stuff in my work, like finding out the gene controlling important traits of bean (*Vigna* species.) using new technologies (i.e. Next Generation Sequencing). This is important work which will be produced new plant varieties suitable for every environment and solving any problem about plants for farmers. Every day is my good day. I can work with my love job. I could be on the experimental field to planting, collecting and harvesting samples, processing samples in the laboratory or sitting at my desk analysing and writing up my results. Sometimes, I also present my research at national and international conferences.

- Language used（使用言語）: English

- Lecture format（講演形式）:

◆Lecture time（講演時間） 60 min（分）, Q&A time（質疑応答時間） 120 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

◆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））

Whole presentation was explained in English by myself

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

◆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。）: