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（For JSPS Fellow）

Form B-5

Date（日付）
2016/10/13 （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）: Quintin Lau （ID No. P15709 ）

- Participating school（学校名）: Ichikawa High School

- Date （実施日時）: 04/10/2016 （Date/Month/Year:日/月/年）

- Lecture title（講演題目）: （in English） Science Dialogue Lecture

（in Japanese） n/a

- Lecture summary（講演概要）: Please summary your lecture 200-500 words.
Australia is a large island country with unique environment and flora and fauna. For my PhD I previously studied immunity and genetics of koalas in Sydney. My research focussed on 1 particular gene that is important for immunity, called MHC (major histocompatibility complex). This gene is important for recognising pathogens that cause disease. I came to Japan (The Graduate University for Advanced Studies, Hayama, Kanagawa) in 2014 and am now looking at immune genes in Japanese frogs. Frogs across the world are under threat by a serious fungal disease called chytridiomycosis. This disease affects the frog skin and has caused deaths and even extinctions around the world. However, Japanese and East Asian frogs don't seem to be affected by the disease. In my research, I want to study why Japanese frogs may be resistant to the disease, and started by looking at the MHC gene.

In the middle of my lecture, I included a experimental exercise to engage with the students and teach them about phylogenetic trees (which shows evolutionary relationships between organisms or genes) and DNA sequence evolution (mutation causing a change in nucleotide). In the experiment, participants conducted a simulation of DNA sequence evolution using two die, one dice (1 – 12) represented position in the DNA sequence, and the other (A, G, C, or T) represented the DNA nucleotide base. Mutations were introduced using the die and following a phylogenetic tree. Students then attempted to map five simulated sequences back to a phylogenetic tree. At the end of the lecture, I conducted a short and simple scientific trivia quiz to engage the students

- Language used（使用言語）: English

- Lecture format（講演形式）:

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◆Lecture time（講演時間） 70 min（分）, Q&A time（質疑応答時間） 5 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 and conducted experiment in the middle of session

◆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））
On occassion, Japanese explanation provided by Prof. Satta

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

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

- 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。）:
高校生が研究についての英語の講演に触れるよい機会だと思います。
また、高校の生物の講義では聞かないような講義に接するのも良い経験になると思い
ました。