Must be typed

（For JSPS Fellow）

Form B-5

Date（日付）
14/02/2017 （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）: Francis SHAND （ID No. P15113 ）

- Participating school（学校名）: Kanagawa Prefectural Sagamihara Secondary School

- Date （実施日時）: 11/02/2017 （Date/Month/Year:日/月/年）

- Lecture title（講演題目）: （in English） Cancer and the Immune System

（in Japanese） がんと免疫の関わり

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

I presented the lecture in the following six sections:

1. My home town – Melbourne, Australia
I showed photos of Melbourne, then compared the population and size of Japan and Australia and talked about the demographics of Australia.

2. My career
I presented a brief overview of my career including primary school, high school, undergraduate study, graduate study and overseas exchange.

3. ACTIVITY: Searching for immune cells in the blood
I distributed microscope slides containing samples of mouse blood, bone marrow and thymus cells to the students together with a worksheet. Students learnt how to operate the microscope and how to recognize the different cells present in the blood. The students then compared the cells in the blood with the cells in the bone marrow and thymus and thought about the possible functions of these organs. At various points in the activity we had class discussions based on the students' observations.

4. ACTIVITY: Counting immune cells in the bone marrow
I distributed printed photos of bone marrow cells to the students and asked the students to work in small groups to classify and count the cells in each photo. I then tabulated the data and prepared graphs during the lecture, explaining the concept of statistical error bars, technical variation and biological variation to the students. We then had a class discussion about the

conclusions that could be drawn from the data. Finally, I explained flow cytometry, another method that we use to classify and count cells in the lab.

5. Cancer and the immune system [due to time constraints, I skipped over most of this section]
I used cartoons from the website www.ono-oncology.jp/contents/patient/immuno-oncology/ to introduce the concept of cancer, the immune system, and how the immune system interacts with cancer. I also introduced different approaches to cancer therapy, and explained the concept of immunotherapy.

6. Our research: an example
I explained that scientists aim to answer questions about the world, and that scientists communicate at scientific meetings or by writing journal articles. I briefly introduced the main points from one of my research articles, in which we used fluorescent mice to track monocyte migration from the bone marrow and spleen to tumors.

- Language used（使用言語）: English

- Lecture format（講演形式）:
  ◆Lecture time（講演時間） 135 min（分）, Q&A time（質疑応答時間） 15 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））
  Showed powerpoint slides via projector, conducted activities (examining microscope slides of mouse immune cells, counting immune cells from photo handouts, creating graphs based on class data).
  ◆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））
  Minimal. Included some Japanese explanation in the lecture, and teachers from the school provided some explanation in Japanese throughout the day.
  ◆Name and title of accompanied person（同行者 職・氏名）
  None
  ◆Other note worthy information（その他特筆すべき事項）:
  The school prepared microscopes for the students and a microscope linked to a large TV, which was very useful during the activities.

- 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。）: