

Form B-5

Date (日付)

18/11/2016 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): Joris PAUTY (ID No. P15767)
- Participating school (学校名): Kyoto Prefectural Yamashiro High School (京都府立山城高等学校)
- Date (実施日時): 5/11/2016 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Biology research is helping us everyday!  
(in Japanese) 生物学研究が私たちの日常を助けてくれる!

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

The outline of my lecture was as follow: (i) Canada and France, (ii), Being a researcher, (iii) Research in Biology, (iv) my current research.

In the first part (30min), I provided the students with basic comparison elements for Japan, Canada and France and presented where English and French are spoken in the world. Then, I introduced the province of Quebec in Canada where I did my PhD, by focusing on housing, some emblematic animals and typical foods. I presented France geographically and through some elements of the daily life: housings, public transports, place to buy food. This led me to give a cultural information that the students can use if they go to France: I explained the difference between a "café" and a "brasserie". From there, I introduced several french foods following the order of a french-restaurant menu. I highlighted the diversity according to the geography which explains why France is renowned for cuisine, cheese and wine.

In the second part (15min), I explained why and how I became a researcher starting from high school. It led me to introduce the 3 types of research, namely fundamental, applied and translational. I then gave 3 positive and negative aspects of being a researcher.

In the third part (15min), I briefly introduced the research in Biology by emphasizing that anyone can have interest in it as it involves a broad range of disciplines. I also highlighted how it is useful in many aspects of the daily life and I concluded by giving three examples. The last example was related to my current research, namely tissue engineering.

In the last part (30min), I quickly introduced my host laboratory and institute. I then presented the tissue engineering field and the organ-on-a-chip technology in order to be able to present my research. I explained the aim of my research which is to study how blood vessels are changed in some diseases and how we can bring them back to a healthy state. Finally, I showed two assays that we have been developing in my host lab to study properties of blood vessels. Based on that knowledge, I grouped the students in 6 teams to do a game/exercise. After

explaining a fictional scientific question related to my current research, I asked them to propose an experiment to answer the question. I explained them several scientific tools without telling them which one they actually needed to use. The teams were very dynamic in trying to solve the exercise but the help of my Japanese colleague was required as many students were shy to interact directly with me. Most of the teams proposed valid experiments. One of the team seemed to have lacked time. Another team showed impressive skills in the design of experiments, as they went further than expected in their answer.

After the lecture 4 students came to meet me to ask some complementary questions related to France and Science.

- Language used (使用言語): English (98%), French (1%), Japanese (1%)

- Lecture format (講演形式):

◆Lecture time (講演時間) 90 min (分), Q&A time (質疑応答時間)     min (分)  
(Q&A time was included all along the lecture as I tried to make an interactive lecture)

◆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))

The lecture was mainly based on a powerpoint presentation. I also brought some microchips (a tool for my research), which students could handle to see how it looks like. Regularly during the presentation I asked questions to the students and sometime asked them to come to the front to answer (showing on a map, etc.). The final part of the lecture (15min) was an exercise asking the students to understand a scientific problematic, scientific tools and to design an experiment to assess the problematic. For this, they were working as teams of 6-8 people.

◆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))

The accompanied person as well as the english teacher sometime gave the explanations in Japanese.

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

東京大学大学院博士課程・薄葉亮

◆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。):

高校生が研究者に触れ合える素晴らしい取り組みだと思いました。一般の高校生にとって英語の講義および研究者と対話できる機会は多くないと思いますので、最先端の科学および海外の文化を肌で触れる貴重な経験を提供できるのではないかと思います。また、日本語補助の同行者がいることで、英語が苦手な学生も交えて双方向的な講義スタイルができたので良いと思いました。当日の詳細が研究者側と学校側でスムーズに連絡が取れるようになるとより一層事業が円滑に進められると思います。