

Form B-2
(FY2021)
Must be typed

Date (日付)
25/08/2021 (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): John Bedford (ID No. P20786)
- Name and title of the accompanying person (講義補助者の職・氏名)
Dr. Takehiro Hirose (グループリーダー・廣瀬 文洋)
- Participating school (学校名): Kanonji Daiichi Senior High School
- Date (実施日時): 24/08/2021 (Date/Month/Year: 日/月/年)
- Lecture title (講義題目):
Studying Earthquakes
- Lecture format (講義形式):
◆ Onsite ・ Online (Please choose one.)(対面 ・ オンライン)((どちらか選択ください。))
◆ Lecture time (講義時間) 80 min (分), Q&A time (質疑応答時間) 40 min (分)
◆ Lecture style (ex.: used projector, conducted experiments)
(講義方法 (例: プロジェクター使用による講義、実験・実習の有無など))
Powerpoint presentation
- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

At the start of the lecture Hirose-san gave a short introduction (15-20 minutes) in Japanese about some of the topics I was going to cover in the main lecture. This included introducing the students to some of the key concepts of earthquake science in order to help them understand these concepts when I spoke about them later in English. After this introduction from Hirose-san I began the main lecture in English. I divided the lecture into two parts. In the first part I gave an introduction about myself, my home country (UK), some differences between life in Japan and the UK, the reasons I became a scientist and also why I came to Japan to study science (earthquakes in my case). This first part of the lecture lasted about 30 minutes and then the students asked questions for about 20 minutes. We then had a short (5 minute) break before I began the second part of the lecture. In the second part, I spoke about earthquake science and introduced the students to some of the research I do to try and learn more about earthquakes. I tried to explain why we have earthquakes by explaining some of the concepts of plate tectonics

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and also how we study earthquakes as scientists. I spoke about a large international research collaboration I was involved in, where a team of scientists attempted to drill into a tectonic fault at the Nankai Trough (Japan) deep below the seafloor. The aim of this project was to collect rock samples from the fault so we could learn more about how earthquakes happen at the Nankai Trough. This was done using the Japanese research drilling ship, Chikyu. I hope the students were inspired by this large-scale science project and also about the opportunity to work with scientists from all over the world. I also spoke about some of the friction experiments I perform here at JAMSTEC where I try to simulate the behaviour of tectonic faults during an earthquake. By talking about the friction experiments I perform, as well as the deep fault drilling project, I hope the students were able to learn about some of the ways we study earthquakes. The second part of the talk lasted about 30 minutes and then the students asked questions for about 20 minutes.

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

I was very impressed about how engaged the students were during the lecture and also about their English abilities when they were asking questions. Some of the questions they asked, particularly after the part of the lecture about earthquakes, were very well thought through and they pushed me to the limits of my scientific knowledge. I am sure many of them will have successful careers as scientists in the future.

- Impressions and comments from the accompanying person (講義補助者の方から、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。):

高校生にとっても外国人特別研究員にとっても、非常に良い経験になるプログラムだと思いました。特に、大学や研究機関が少ない地方では、先端研究を聞いたり、科学者と話したりする機会が少ないことを考えると、地方でこのようなプログラムを実施することはとても意義があるように感じました。

今回の授業では多くの質問を学生からいただきました。数理科のある SHS 高校に選ばれている高校だったこともあり、このような質疑ができたのかなと思っています。質問が来ない一方通行の授業になってしまうと外国人特別研究員のモチベーションも下がってしまうかもしれないので、JSPS の方でやっていただいているマッチングは重要であるように感じました。