

(For JSPS Fellow)

Form B-5

Date (日付)

8/Sep/2014 (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): James Quach (ID No. P 14718)

- Participating school (学校名): Fukushima High School

- Date (実施日時): 5/Sep/2014 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Career in Quantum Mechanics

(in Japanese)

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

In my lecture I talked about my career as a quantum physicist. I talked about a little bit about my country (Australia), my education, and my career path. I then went on to explain why I loved science and why I chose Japan to do my research. I then introduce the students two stories of quantum mechanics, one easy, one more difficult.

1. (Easy) I spoke about spectroscopy. I asked the question, how do we know tha the sun is made of hydrogen and helium when we have never been there? I explained how the quantum mechanical understanding of the atom, allowed us to use spectroscopy to determine the atomic source of the light that radiates from the sun.
2. (Hard) I also spoke about my latest research ino the gravitonic Casimir effect. Here I intrdouced the concepts of the Heisenberg uncertainty principle, the casimir effect, and the four fundamental forces. This part of the talk was quite advance, so I did expect the students to understand all of it – my hope was that it gave them an idea of what type of research theoretical physicists actually do.

Overall my aim was to inspire scientific curisoity in the students, give them an idea of what a scientific like and how to work towards one, and explain how rewarding a scientific career can be. I believe I achieved this.

- 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) 20 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))

Projector and handouts _____

- ◆ 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))

N/A

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

Mrs. Susan Quach

- ◆ 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。):

At the beginning of the talk Dr Quach showed the students a motivational video 'Cosmos' that got their attention and was very inspiring. The students were very attentive during the talk, and seemed to particularly enjoy the interactive session in which they talked about famous things from Japan and Australia. A number of students showed their enthusiasm at the end of the talk by asking several questions during question and answer time.