

(For JSPS Fellow)

Form B-5

Date (日付)

02/11/2016 (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): Benjamin Quilain \_\_\_\_\_ (ID  
No. P15721 )

- Participating school (学校名): Toyama Prefectural Toyama Senior High School

- Date (実施日時): 02/11/2016 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Little stories about particle physics, research and France.

(in Japanese) 研究者物語 \_\_\_\_\_

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

The lecture was divided in 4 parts: particle physics in our everyday life, neutrino physics, motivations & life of a researcher and an introduction to France s culture.

I have first introduced the scales smaller than the human perception, i.e the molecules, atoms etc. until reaching the the fundamental particles that constitute matter: the valence quarks and electrons. I have then explained that other particles can be observed when looking in the sky or particle/nuclear physics experiment, which lead me to introduce all the quarks and leptons known today. We have then explained the concept of interactions, vectors and receptors, starting from the human scale and going down to fundamental interactions. After describing the role and intensitu of the 4 fundamental interactions, we have completed the standard model description. It was used to explain how neutrino are very silent particles compared to others.

Due to time limit, we have directly highlighted the observation of matter/antimatter assymetry in the observed universe. We have then explained that thoughneutrino barely interact with matter, they might be the source that generated this assymetry and changed the universe s destiny.

In a third part, I have first introduced why I have decided to pursue research in Science, and especially in physics. We have then presented the life of researchers and methods to correctly pursue research through an analogy with the discovery of a terra incognita. We have shown few pieces of the detector that I am currently using. With this analogy, we have starred from defining our research topics to producing a paper, while insisting on important issues to pursue our research topic to its ending.

Finally, we studied few examples of differences and similarities between the French and Japanese customs.

- 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) 30 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))

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◆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))

I was accompanied by Nakanishi Yoshie. She actively assisted me in explaining the important points of the presentation to the students in Japanese. Moreover, she translated the questions from the students when they preferred to ask them in Japanese. She not only assisted, but also actively proposed personal examples to illustrate my presentation, or by asked questions to the students during their research topic's presentation. Both her attitude and easiness in translation really reassured the students and encourage them to ask questions.

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◆Name and title of accompanied person (同行者 職・氏名) Ms. Nakanishi Yoshie, Master-II student at Kyoto University

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

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- **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。):**

The most impressive point in the lecture is that although the contents of the lecture was difficult and all lecture was in English, most students listened the lesson studiously and some asked high level questions.

I think their presentation about their research was nice for me and themselves. The theme was various and interesting for me. For students, it was precious that they tried to tell us their research in English. That's why I think it was nice planning.