

(For JSPS Fellow)

Form B-5

Date (日付)

25. September 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): Eike F. Schwier (ID No. P13783)

- Participating school (学校名): 愛知県立刈谷高等学校(Aichi Prefectural Kariya High School)

- Date (実施日時): 24. September 2014 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) How to „see“ atoms?

(in Japanese) どのように原子を見る?

- Lecture summary (講演概要): I started my lecture by introducing my home town and my home country. I used maps to convey the distances between japan and Germany and within Germany. I compared the educational systems of japan and Germany in order to convey similarities and differences in the subjects that are thought and the length of the school levels. I proceeded to explain my way through the educational system of Germany and the academic ranks of Germany and Switzerland. I focused on my experience in university during my bachelor, master and PhD thesis and explained why I choose physics and why I continued to do research after finishing university. I tried to transfer how the field of physics changed from my point of view as I advanced and tried to show why I became more and more fascinated with science in general and physics in particular. The main message of this first part of my lecture was the fascination for the "wonders of science" and how physics and physical thinking works.

During the second half of my lecture I focused on explaining in easy-to-understand-words and many images, how it is possible to "see" atoms, by using scanning tunneling microscopy. I used several consecutive magnifications of the measurement tool in order to show how much smaller atoms are than what we can see with our eyes. I then gave several examples of measurement results as well as some videos of time-resolved measurements of different systems with particular interesting atom arrangements. I finished by talking about the scientific process from idea to publication in general terms and then used a recent project of mine as an example.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 150 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))

mainly projection and some blackboard. Some show and tell.

◆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))

Presentation text was both english and japanes. Explanation was in english and Kariya English teacher was present if translations were nessessary.

◆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):

none

- 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。):