

(For JSPS Fellow)

Form B-5

Date (日付)

30日/11月/2013年 (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): Adriana Ledezma Estrada (ID No. P13046)
- Participating school (学校名): スーパーサイエンススクール 岩手県立水沢高等学校
- Date (実施日時): 22日・11月・2013年 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Degradation of antibiotics by electrochemical oxidation process using an activated carbon felt cathode.
(in Japanese) 繊維状活性炭電極を用いた電気化学促進酸化法による抗生物質の分解.
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

In my lecture, first I introduced myself and my country, then I talked about what I think you need to become a scientist. Lastly, I explained my research in the most simple way.

When I introduced myself, I emphasized in the time that you might need to spend studying to prepare yourself. I talked about the things I like to do besides my research, to show them that you can enjoy your life in a different ways. Then, to introduce my country, I compared first Japan and Mexico in such things as population, weather, etc. After that I talked about how is Mexico, places, food, culture, environment and people. Also, I talked about the educational system as well of the educational situation. I pointed out the importance of the investment in education and the importance of scientist in a country.

I expressed my opinion about what you need to become a scientist like to have some features such as been curious, positive, persistent, and so on. I explained why I think so with examples. Also, I illustrated the importance of the scientific method, and how it makes science reliable. I gave them an easy example, and as I was setting out the problem they were telling me what should we consider. Finally, I told them that communication is very important because through publishing papers other scientist around the world are able to know about your results and even correct you. I encouraged them to study English because international papers should be writing in English; therefore English is a communication tool.

Finally, I described the water situation around the world like shortage, pollution and how it all is tide to human activities. Furthermore, how the changes in our lifestyle, the improvements in farming, agriculture and medicine are mainly due to the development of new substances that

end up in the water bodies. Then, I was able to introduce my research. I told them how does the antibiotics enter into the environment, and the potential risk they represent to the environment and mainly to public health due to the antibiotic resistance bacterial strains. I explained why common waste water treatments are not effective to remove this kind of substances. As a consequence, we need new technology that could remove such pollutants, like my process. At this point, I explained my process (electro-Fenton), the fundamental, the variables that affects its efficiency, the price and it could be combined with a biological treatment . Then I showed my results and said my conclusions.

At the end of my presentation they asked me some questions.

- Language used (使用言語): English and few Japanese

- 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))

プロジェクター使用によるプレゼンテーション

◆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))

同行者による通訳、研究室での様子などの日本語説明 当日の新幹線、タクシーの手配

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

Sudo Yuta 東北大学大学院環境科学研究科修士2年 須藤裕太

◆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。):

スーパーサイエンススクールの存在を以前は知りませんでした。高校生のうちから実際の英語に触れ、必要性を理解することは、今後の英語学習の発展につながると考えます。それと同時に国際的に活躍できる科学者、技術者を養成するための良いきっかけになると考えています。高校生の一生懸命、英語を聞こうとする姿や辞書を使いながら頑張る姿勢がとても素晴らしいと感じました。

須藤裕太