

(For JSPS Fellow)

Form B-5

Date (日付)

5/11/2013 (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): Pablo Arturo Aparicio Sánchez (ID No. PE13041)
- Participating school (学校名): Tokyo Metropolitan Toyama Senior High School
- Date (実施日時): 26/10/2013 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Introduction to Chemistry: study of inorganic molecules in batteries

(in Japanese)

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

In the first part of my lecture I talked about my home country (Spain) and explained to the students the most important things of my culture. I also showed them some nice pictures of my home city (Valencia) and another cities like Tarragona and Barcelona. After this introduction I explained what is science and why I became scientist. Then I talked about the different branches of chemistry and I focused the explication on my field. I aslo was talking about the Nobel Prize on Chemistry of this year (2013) because it was awarded to three researchers on my field (theoretical chemistry). So, it was a good opportunity to explain what is the computational chemistry and how it can help us in the study of chemical problems. Finally I explained them my research project about polyoxometalates and their applications in batteries. Polyoxometalates (POMs) are inorganic aggregates made of oxygen and transition metal atoms usually in their highest oxidation states. The valence shell of the metals is empty so they are capable to accept electrons without notable geometrical changes. The ability to configure redox properties is one of the most important features of POMs. Development of rechargeable batteries is one of the most important issues to solve the environmental and energy concerns. To develop the high performance rechargeable battery using POMs, it is important to develop a POM model structure that can be studied both by experimental and theoretical means.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 100 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))

Projector, powerpoint, board.

◆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))

Assistance by accompanied person

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

Mr. Kato Masachita

◆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。):