

(For JSPS Fellow)

Form B-5

Date (日付)

14/03/2016 (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): Dr. Sanjog Sunil Nagarkar (ID No. **P 15037**)

- Participating school (学校名): Nagano Prefectural Yashiro High School in Chikuma City

- Date (実施日時): 07/03/2016 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Coordination Polymers for Clean Energy Applications
(in Japanese) 配位高分子を利用したクリーンエネルギーへの応用

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

It was great experience to be a part of JSPS science dialogure and visit the Nagano Prefectural Yashiro High School in Chikuma City Nagano. I sent the abstract and presentation file of my lecture in advanced to school. The student had a hard copy of the presentation during lecture with some inportants terminologies translated in japanese. I believe that it must hae had helped a students to understant the lecture. During my lecture I presented some facts and interesting information about my home country. I also talked about my life as reseracher an why I became researcher. The scope and opportunities to study outside your home country and advntages of being able to communicat in english were disscussed. The variour prestigious fellowships to carry out reserch were introduced to students. As a part of my current reserach I introduced them to effects of carbon dixode (CO₂) emission on earth and the explines then the importance of in clean energy sources. Some of the recent developments and strategies to capture CO₂ were disscussed with Coordination Polymer (CP) models. The concept of fuel cells and the development of CPs for the design of efficiennt fuel cell was presented. At the end i saked some questions to students based on lecture and tought students a new way of counting the numbers.

One of the girs student was really got interested in the CPs and asked her doubts after the lecture with the help of Hongo-sensei.

Abstract:

Development of clean energy sources is highly important to satisfy ever increasing energy demand and reduce the global pollution. The fuel cell technology is promising energy production system which converts chemical energy in to electrical energy with environment friendly by product like water. Another approach to reduce the pollution is to selectively capture the polluting gases mainly CO₂ released during burning of fossil fuels and safely dispose/reuse

them. Recently, Coordination Polymers (CPs) have emerged as promising materials for clean energy applications like fuel cell gas storage, gas separation, etc. In present lecture I will introduce the concept of Coordination Polymers and will discuss about their applications in the area of fuel cells and gas separation.

Key Words: Global warming, Fuel cell vehicle, Carbon dioxide emission from industries, Pollution

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 120 min (分), Q&A time (質疑応答時間) 10 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))

Power Point Presentation and Coordination Polymer Models was used

◆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))

Yumi Hongo-sensei from School kindly translated the lecture notes. She also explained the lecture contents to students during lecture. She helped me while answering the doubt of and one of the girl student at the end of the lecture

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

NA

◆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。):