

(For JSPS Fellow)

Form B-5

Date (日付)

9/10/2016 (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): Motakatla Venkateswer Reddy (ID No. P15352)

- Participating school (学校名): Ichikawa Gakuen Ichikawa Junior & Senior High School (Ichikawa-city, Chiba)

- Date (実施日時): 5/10/2016 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Synthetic plastics and problems: Bioplastics production from waste materials

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

My lecture contains the brief introduction of life, history, inventions, food habits and famous people of India, similarities and differences between Japan and India. I also explained about my life as a researcher, my educational details, and the reason why I became a researcher. Regarding basic story of my research, I explained about synthetic plastics production, types of plastics and problems with their degradation. Regarding advanced story of my research, I explained about bioplastics which were alternative to synthetic plastics, and advantages of bioplastics over synthetic plastics. I also explained about bioplastics production using bacteria and plants, types of bioplastics and their degradation. I explained about the production of bioplastics like PHB from waste materials, conversion of the toxic metabolites into useful PHB, identification of the gene (PhaC) encoding for the PHA synthase, and characterization of produced PHB by using various advanced analytical methods like chromatography, spectroscopy, and calorimetry. I explained about how we produce bioplastics from various wastewaters collected from different places in Hokkaido, i.e., Muroran, Date, and Noboribetsu wastewater treatment plants. I showed the videos for production of bioplastics using starch, glycerol, and banana waste. Finally, students asked many questions – 1/ time required for degradation of bioplastics, 2/ which bacteria can produce and degrade bioplastics, 3/ cost difference between synthetic plastics and bioplastics, and 4/ production of bioplastics using orange peel.

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

- 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))

Used projector and black 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))

I can speak and understand little Japanese. I used mainly English language, students were so smart and they understood my language. Fujisawa San some times explained in Japanese for easy understanding.

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

Fujisawa San (Senior Master student)

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

I was impressed by students English speaking ability, they are very good in English and communication skills. School was in highly standard, truly speaking I never see that much standard level in Indian schools (some schools are there in India, but the tuition fee is very high, it was not affordable by middle class people). I was wonder there are total 2200 students (Junior and senior) studying in the school. I also wonder that one girl from my class presented her research work as poster presentation in America, and won the best poster award. She also explained about her work and it is really interesting. The school management was very nice and they treated us very well manner. Finally thank you very much for JSPS-Science dialogue program and Ichikawa Senior High School management for providing me this great opportunity.

- 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。):

Fujisawa San also impressed by facilities available in the school, intelligence and grasping power of students.