

(For JSPS Fellow)

Form B-5

Date (日付)

19/07/2014 (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): Taryn MARCH (ID No. P13744)- Participating school (学校名): Hikone Higashi High School- Date (実施日時): 14/07/2014 (Date/Month/Year: 日/月/年)- Lecture title (講演題目): Life as a research chemist – an introduction to natural product synthesis and catalysis(in Japanese)

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

My lecture broadly discussed two main topics: natural product synthesis and catalysis. It also provided the students with an introduction to the geography and notable inventions of Australia. The natural product component of the lecture described what natural products are and why scientists are interested in them. This concept was illustrated using examples of important drugs and medicines sourced from plants or animals. It was then explained that for the compound to be useful as a medicine, chemists must find a way to make large amounts of the drug in the laboratory. The process that chemists use to first identify the chemical structure of a bioactive compound, then to synthesize it through artificial means in a laboratory was then illustrated using my own research on the synthesis of antibacterial compounds from Australian plants. The second part of my lecture gave students an introduction to catalysis and described the mechanism of a catalytic cycle and how catalysts are used to help perform chemical reactions. Examples of industrially important processes that use catalysts were given, together with the everyday products made using these methods, which allowed students to gain an appreciation of how important catalysis is to society. This introduction was followed by a discussion of some drawbacks associated with current catalysts, and why there is a need to develop new catalysts that perform more like enzymes. This led to a description of the catalysts invented by my research group at Kyoto University, and my efforts to synthesise new catalysts and refine their activity.

- Language used (使用言語): English

- 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))

Powerpoint presentation screened with a projector

◆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))

My colleague provided a 6-7 minute summary in Japanese after each of the two main sections of my lecture.

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

辻信弥 (Doctoral student)

◆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。):

The lecture was well received by the students. The nature of the questions asked by them demonstrated that they had a good understanding of the material presented. While some students became visibly tired during the long lecture, they generally tried their best to stay attentive and follow what was being said because of their interest in the content. As representatives of Kyoto University, we appreciated the opportunity to engage with the students and encourage them to pursue a career in science, specifically chemistry.