

(For JSPS Fellow)

Form B-5

Date (日付)

24/02/2017 (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): CARMEAN Christopher (ID No. P16418)- Participating school (学校名): Kawanishi Midoridai High School- Date (実施日時): 08/02/2017 (Date/Month/Year: 日/月/年)- Lecture title (講演題目): (in English) Chronic Arsenic Exposure Impairs Pancreatic β Cell Function(in Japanese) ヒ素の長期曝露による膵 β 細胞機能障害

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

The lecture included a description of the widespread problem of arsenic-contaminated drinking water, potentially exposing up to 100 million people to unsafe levels of arsenic on a daily basis worldwide. The physical systems regulating glucose homeostasis were described, and the lecturer explained what specifically happens to sugar from meals as it enters the body and is processed through the digestive tract and bloodstream. A definition was provided of diabetes, and a very brief history of a few key discoveries in diabetes were described. Type 1 and type 2 diabetes were distinguished for the students, and a focus was placed on type 2 diabetes, as it afflicts several million people worldwide. To connect the original problem of arsenic contamination with diabetes, the observed clinical link between arsenic and diabetes was described. The usefulness of mouse models to help explain clinical findings was discussed, as well as general strategies for approaching medical problems such as disease. An explanation of the experimental systems used by the lecturer and the results of a few specific experiments were presented to show students a few examples of real data generated to better understand arsenic-associated diabetes progression. A short personal and professional history was provided along with some highlights of the presenter's time in Japan.

- 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) 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))

Used a projector and Microsoft Powerpoint

- ◆ 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))

Assisted by accompanying person who interpreted questions asked in Japanese

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

Dr. TAKAHASHI Harumi (特命講師・高橋 晴美)

- ◆ 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。):

今回は、私共にとっても初めての経験でしたが、生徒の皆さんは大変真面目に授業に取り組まれており、講演の内容もよく伝わっているようで非常に手応えを感じました。高校生の皆さんにとって外国人研究者と直接交流する機会はなかなか無いと思いますが、このようなプログラムで外国語を通して実際の科学研究に少しでも触れることによって、好奇心が刺激され、国際交流およびサイエンスへの関心がさらに高まるであろうことを実感しました。