

Form B-5

Date (日付)

27日11月2012年 (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): DAPAT Clyde Pancito (ID No. P12104)

- Participating school (学校名): Niigata Municipal Bandai Senior High School

- Date (実施日時): 22日11月2012年 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Visualizing Drug Resistance in Influenza Virus

(in Japanese)

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

The lecture consisted of three parts. First, I introduced Philippines and my hometown, Cebu. I presented my former university and the reasons why I am in the field of science, specifically in virology, and why I came to Japan.

In the second part, I gave a background on influenza virus, structure, types and subtypes, and showed a video on its life cycle. I introduced the current commercially available antiviral drugs for the treatment of influenza virus infection. Next, I presented the laboratory-based influenza surveillance system at Niigata University and showed our laboratory data on the high prevalence of drug-resistant influenza viruses. I explained the reason for drug resistance at the molecular level and showed how a single amino acid mutation in the viral protein, neuraminidase (NA), is responsible for drug resistance.

In the last part of my lecture, I demonstrated how to use the PyMOL software to visualize the viral NA protein and antiviral drug complex and simulated the mutation in silico to explain how the mutation affects the stability of the structure which leads to drug resistance. As a closing remark, I highlighted the importance of influenza surveillance on drug resistance and its application in the management of influenza virus infection during pandemics and yearly epidemics.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 45 min (分), Q&A time (質疑応答時間) 5 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))

use of projector and use of molecular visualization software PyMOL

- ◆ 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)

Dr. Kousuke Saito, Assistant Professor

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

none

- 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。)