（For JSPS Fellow）

Form B-5

Date（日付）
　　　24/9/2014　　　（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）:　　Chris Fook Sheng Ng　　　　　　　（ID No.　P13501　）

- Participating school（学校名）:　　Tochigi Prefectural Utsunomiya Girls' Senior High School

- Date （実施日時）:　22/9/2014　　　　　　　　　　　　（Date/Month/Year:日/月/年）

- Lecture title（講演題目）:　Assessing the short-term health effects of air particulate matter

　　　　　　　　粒子状物質への短期的な暴露による健康影響の定量化手法

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

　　　　I began my lecture by introducing my country, Malaysia, and my hometown Malacca using a map. Basic statistics such as the land area, population size, age structure, ethnic composition and so on were presented for both Japan and Malaysia as interesting comparison. Pictures of well-known tourist spots in my hometown, which is a UNESCO World Heritage Site since 2008, were also shared with the students. After a brief introduction to my education background, I talked about my research interest – environmental epidemiology. I explained the definition of epidemiology and why it is an important field to understand the various determinants of diseases in human population. I then introduced the main topic of my lecture, which is an epidemiological study to quantify the short-term health effects of exposure to air particulate matter (PM). Using pictures and microscopic images, I explained to the students the different sizes, sources, chemical compositions, and therefore, the different toxicity of airborne PM. Documented health impacts associated with the inhalation of air particles were briefly summarized, followed by a NASA's satellite picture of the Atmospheric Brown Cloud (ABC) to explain the severity of air particle pollution. I also presented a recent picture of Kuala Lumpur, Malaysia to show the current haze problem in the country. I then went on to summarize a few scientific journal articles that reported evidence of various PM-related health impacts in Japan (e.g., asthma, lung cancer, heart diseases-related mortality and pollinosis). The observed time-series data of daily mortality, temperature and PM (with aerodynamic diameter 2.5 μm) in Tokyo from 2002 – 2007 were presented to illustrate the data for an actual epidemiological study. I discussed with the students the typical methods to measure human exposure in large population. Using mathematical formula, I explained the importance to consider delayed effects of exposure to PM when estimating the impact on human health. I closed the lecture with an explanation of a recent finding of significant excess daily mortality due to PM in Japan and encouraged the students to think about how human is vulnerable to the environment and the

importance of epidemiological methods to quantify the relationship for effective prevention and countermeasures.

- Language used（使用言語）:   English

- Lecture format（講演形式）:
    ◆Lecture time（講演時間） 55 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））
            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））
            Explanation in Japanese by myself
    ◆Name and title of accompanied person（同行者 職・氏名）
            None
    ◆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。）: None