（For JSPS Fellow）

Form B-2
(FY2018)

Date（日付）
30/01/2019 （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）: Mahmoud Hamed Mahmoud Hamed Elmaghrabey（ID No.P18405）

- Participating school（学校名）: Saga Prefectural Tosu Senior High School

- Date （実施日時）: 29/01/2019 （Date/Month/Year:日/月/年）

- Lecture title（講演題目）: Chemiluminescence Immunoassay
- Name and title of your companying person（講義補助者 職・氏名）
  佐藤雄大、博士前期課程
- Lecture format（講演形式）:
  ◆Lecture time（講演時間） 70 min（分）, Q&A time（質疑応答時間） 20 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 Data show projector and used videos and animation in the powerpoint presentation

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

The lecture was about chemiluminescence immunoassay. At first, I introduced my self and my career path to the students, then I talked to them about my country, Egypt, and our nature, culture, and monuments. Then, I talked about the merits of being a scientist such as; plenty of opportunities to have academic jobs and that science develops problem-solving skills which are important for all kinds of jobs, the thrill of new discoveries, using science you can solve global challenges such as hunger or clean power source or a cure for devastating diseases, also being a scientist will give you opportunity to travel the world, and moreover, science can be really fun and when you make a new finding or discovery it is very interesting and pleasing thing. After that, I moved to the main topic of the lecture, chemiluminescence immunoassay. At first, I gave them a brief introduction about chemiluminescence, types of chemiluminescence mechanisms; direct and indirect ones, and examples for every type in addition to videos illustrating these examples; videos showing luminol and peroxylate esters chemiluminescence. Then I show them a realistic application of chemiluminescence, glowing sticks, as when you break it, you allow the chemicals inside it to react and produce chemiluminescence and one of the students participated and broke a glowing stick and I showed them how chemiluminescence light is formed after that. Then I

gave them a brief introduction about immunoassay and its advantages. Then I explained in details the sandwich type immunoassay and enzyme-linked immunosorbent assay (ELISA). After that, I explained my research them, non-enzymatic chemiluminescent immunoassay and how we will replace enzyme with a chemical compound like quinone that can efficiently produce chemiluminescent like enzyme with the advantage of being more stable and smaller in size than them.

- Overall advice or comments to future participants in the program（今後の講師へのアドバイス）:

I advise future lecturers to use easy topics and speak slowly and decrease the content of the lecture. Also, it is good to make a simple demonstration of their experiments in front of the students, this catches the attention of the students very much.

- Other noteworthy information（その他特筆すべき事項）:

It was a new and interesting experience for me to gave a lecture to Japanese high school students. I think it will be better if the students are given the handouts of the lecture one week before the lecture so they can have enough time to search for the difficult scientific terms and expressions

- Impressions and comments from the accompanying person（講義補助者の方から、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。）

英語のみの発表ではなく、ハメドさんの発表後に自分が日本語の要約を組み込むことで高校生にとっては分かりやすくなったのではないかと思う。また、ハメドさんも難しい単語を使わず、簡単な単語を用いており、かつゆっくりと話していたので理解しやすかったと思うが、内容が少し複雑だったので、高校生にとっては難しかったと思う。また、このような留学生が高校に来校して講義されるのはなかなかない経験だったので、こういう機会が増えることで高校生にとっても、また自分やハメドさんにとっても貴重な経験できたので、非常に感謝しております。感謝申し上げます。