

Form B-2
(FY2022)
Must be typed

Date (日付) 19 / 10 / 2022
_____(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): ISLAM MD WALIUL (ID No. P21407)
- Name and title of the lecture assistant (講義補助者の職・氏名)
Takuro Niidome, Professor
- Participating school (学校名): Ikeda Gakuen Ikeda Junior and Senior High School
- Date (実施日時): 17 / 10 / 2022 (Date/Month/Year: 日/月/年)
- Lecture title (講義題目):
EPR-based nanomedicine is a fighting tool against cancer disease in a regulated way without harming cancer patients
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- Lecture format (講義形式):
◆ Onsite ・ Online (Please choose one.)(対面 ・ オンライン(どちらか選択ください。))
◆ Lecture time (講義時間) 85 min (分), Q&A time (質疑応答時間) 20 min (分)
◆ Lecture style (ex.: used projector, conducted experiments)
(講義方法 (例: プロジェクター使用による講義、実験・実習の有無など))
Powerpoint slide with projector
- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

I divided my lecture in two parts. In the first part, I described about my country especially history, education, culture, economy, turisms and attractions etc. and also I tried to compare with Japan in some points. The second part of my talk I discussed about science especially about cancer disease and how we can fight against cancer in regulated way without harming the cancer patients. Commonly used most of the anticancer drugs are small molecular size and they distribute entire body indiscriminately after intravenous administration, as a result these anticancer drugs exhibit terrible side effect. Enhanced permeability and retention (EPR) based nanomedicines can be a solution for the safe and tumor selective cancer treatment. Because tumor tissue blood vesles are leaky compare to normal tissue blood vesles and this leaky blood vesles allow the nanomedicine to accumulate into tumor selectively. I tried to explain the EPR effect and importance of EPR-based nanomedicines in detail and easy way. Moreover, I discussed about two

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new techniques of cancer therapy called boron neutron capture therapy (BNCT) and photodynamic therapy (PDT). BNCT is a radiation therapy and upon neutron irradiation $^{10}\text{boron}$ generates α particle that will kill cancer cells. PDT is a treatment that uses a photosensitizer followed by light irradiation. After light irradiation it generates singlet oxygen and reactive oxygen species that kill the cancer cells. In the last part, we allow all student to ask questions and overall events of science dialogue was significant and fruitful.

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

I believe, the science dialogue is a great scope for high school student to learn about very advanced technology and research. It is worth to note that, before the presentation if lecture assistance briefly explain the outline of the talk in Japanese then it will be more easy to understand for them.

- Impressions and comments from the lecture assistant (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。):

対象は高校2年生が主で、一部高校1年生および中学部からの聴講希望者がいました。英語の能力がそう高くない受講者も含まれると判断したので、前半および後半の冒頭で、これから講師が何を話すのかアウトラインを説明し、いくつかのキーワードを伝えました。また、講義の途中でも何度か日本語で、現在どんな話をしているか簡単に説明も加えました。すると、受講者は講義の中で出てくるこれらキーワードを繋ぎながら、全体の話英語で理解できたと思います。講義後数人の生徒から、説明内容にはついていけたとコメントもいただきました。特に専門分野については専門用語も多く、理解に苦しむことが多いと思いますが、このように適宜日本語でのサポートがあれば、伝えたいこと、学びたいこと双方充実すると思われました。