

(For JSPS Fellow)

Form B-2
(FY2018)

Date (日付)
19/12/2018 (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): Subha Das (ID No. P18086)

- Participating school (学校名): Tokushima Prefectural Tomiokahigashi High School

- Date (実施日時): 14/12/2018 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): Microbes against microbes: an eco-friendly way of managing fungal plant pathogens

- Name and title of your accompanying person (講義補助者 職・氏名)

Yukiyo Sato (Postdoctoral Fellow under Prof. Nobuhiro Suzuki)

- Lecture format (講演形式): Powerpoint presentation

◆Lecture time (講演時間) 100 min (分), Q&A time (質疑応答時間) 15 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))

Powerpoint presentation using projector

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

Crops and fruit trees growing in the fields are often attacked by different types of plant pathogenic fungi. Upon infection, some of these fungi can cause devastating diseases and therefore are associated with significant economic losses. The most common approach of managing such fungal diseases is application of chemicals or fungicides. However, fungicidal applications are associated with increased production cost, utilisation of fossil fuel energy, potential environmental pollution, food consumer concerns, as well as various non-target effects. In addition, persistent broad range fungicides can kill beneficial microorganisms living in the rhizosphere. Frequent application can also lead to the risk of development of fungicide resistant fungal strains. Due to these concerns, alternative strategies are required for environmentally-friendly and sustainable disease control.

Mycoviruses are viruses that infect fungi. Some mycoviruses can reduce host virulence (disease-causing ability) upon infection. Such viruses can be used as biological control agents against their host plant pathogenic fungi. In our research, we try to identify such viruses that can reduce virulence (known as hypovirulence) of their hosts upon

infection. We also study host-virus and virus-virus interactions so that the knowledge could be used for development of future disease management strategies.

In my presentation, at first, I introduced myself to the students and told them about my educational background and research experiences. Then I gave them an introduction about microbes. I described plant pathogenic fungi and their general management strategies. I told them why biological control is necessary and how microbes could be used as biological control agents against other microbes. Next, I told them about mycoviruses and how mycoviruses could be used as biocontrol agents against their plant pathogenic fungal hosts. I ended this session by giving them a short description of Yado-kari and Yado-nushi viruses (novel viruses I am working on at the moment), and also gave them a demonstration of some basic research instruments that we commonly use in our laboratory.

As I was suggested by the high school authority to present much information about my country, in the second part of my presentation, I told them about the culture, heritage, food, sports, scientific research, famous personalities, and other interesting facts about India. However it was not on my slides, I told students about my so far living experience in Japan and why I chose to come to Japan for postdoctoral research. I also explained them why learning English is important and how it would help them in future.

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

1. Try to focus on pictorial presentation, which means more photos and less writings on slides.
2. Deliver talk slowly and try to use easy English words.
3. Explain your research in an easiest possible way. Too much information should be avoided.

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

No

- 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。)

I think it was good opportunity for us to communicate with and to inform our scientific interest to high school student, because we should tell the significance of our research to many people. I guess the seminar was also great opportunity for high school students to learn practical English. I was happy that students gave Dr. Das many interesting questions.

In my opinion, I wished if the high school were nearer to our research institute. We took almost 8 hours to go and come back in a day. I think it should be better to match JSPR researchers with nearer high schools than our case.

(私たちにとって本セミナーは、高校生と交流し、研究の意義を伝えることのできるありがたい機会となりました。高校生にとっても、実践的な英語を学ぶ良い機会であったと思います。生徒たちが Das 博士におもしろい質問をたくさんしていたのが印象的でした。

一つ意見を言うならば、私たちの研究所と高校まで、往復 8 時間を移動に費やさなければならなかったことが辛かったです。もう少し近場の JSPS 研究者と高校生をマッチングできたら良いかと思います。)