Form B-2
(FY2022)
Must be typed

Date（日付）
29/11/2022 （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）: Rafael B. Jaculbia （ID No. P21033 ）

- Name and title of the lecture assistant（講義補助者の職・氏名）
木村 謙介 Postdoctoral Researcher

- Participating school（学校名）: Tokyo Metropolitan Toyama High School

- Date （実施日時）: 25/11/2022 （Date/Month/Year:日/月/年）

- Lecture title（講義題目）:
See small, learn big

- 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） 60 min（分）, Q&A time（質疑応答時間） 40 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））
Used projector, performed small demonstration on a microscope

- Lecture summary（講義概要）: Please summarize your lecture within 200-500 words.

My presentation was divided into two parts. The first part of the lecture is about personal information which roughly took 40% of the time of the whole lecture. In this part of the lecture, I first described my home country, the Philippines by explaining about our flag, languages, food, weather and some tourist destinations. I then described my home university and institute and some activities we do in my university. I then ended with some information about myself and how I became a scientist.

The second part of the lecture is towards explaining my work in studying nanomaterials using tip-enhanced Raman spectroscopy. This part of the lecture contained started with an explanation of nanoscience and nanotechnology. I then proceeded to describe light-matter interactions and spectroscopy in general. Afterwards, I described how it normally is difficult to apply spectroscopic techniques for nanomaterials because of the so called diffraction limit. I then continued with describing how we can alleviate this problem through the use of nanoparticles and then how these nanoparticles can be applied for techniques such as surface enhanced Raman spectroscopy. I then showed how my research which is tip-enhanced Raman spectroscopy is a natural extension of surface enhanced Raman spectroscopy. Towards the end of my

presentation I described how I used this technique to image single molecules and what I learned from my results.

◆Other noteworthy information（その他特筆すべき事項）:
The lecture went smoothly thanks to the efforts of the faculty especially the Teacher-in-charge. It was also nice to see that the students are very relaxed with their teachers which I feel makes them unaffraid to ask questions and speak freely without being afraid of what their teachers would say.

- 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。）: とても面白い試みで、生徒さんも真剣に話を聞いていてくださっていて良かったと思います。JSPS からの見本スライドは研究者の母国の話が多めですが、生徒さんは研究内容に関するレポートが課されていたみたいで、その辺のミスマッチは埋めた方が良いと思いました。例えば、JSPS 側から担当の先生に過去のスライドの例を提供するなど。