

(For JSPS Fellow)

Form B-5

Date (日付)

16/11/2017 (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): Jamie Gilmore (ID No. _____)
- Participating school (学校名): Nara Prefectural Seisho Junior & Senior High School
- Date (実施日時): 02/11/2017 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): The genome structure of RNA viruses
- Name and title of your company (同行者 職・氏名)
Yoko Fujita, graduate structure at Kyoto University
- Lecture format (講演形式):
 - ◆Lecture time (講演時間) 120 min (分), Q&A time (質疑応答時間) _____ 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 on projector

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

My research encompasses a variety of fields. I tried to explain the basics of each of these fields to the students, and finally explain how they contribute to my research. To start with, I explained the technique which I specialize in: Atomic Force Microscopy (AFM). Then, I explained what a virus was and their general lifecycle in a cell. After that, I explained about RNA structure, and how it contrasts with the structure of DNA. I introduced them to the pdb.org website which is often used by structural biologist to observed the structure of biomolecules, and I used structures of RNA molecules from this website to help the students understand the complexity and versatility of RNA structure as a consequence of being single-stranded.

I also explained to them about the 2009 Nobel Prize in Chemistry for solving the structures of the ribosome with ribosomal RNA (rRNA), and I showed them the ribovision website for observing the base-pairing models of rRNA from different organisms. I told them that rRNA are the largest RNA molecules with known structures, and tried to convey to them the difficulty of existing technology for obtaining structures of other RNA molecules. Then I went on to show them my AFM data of rRNA molecules, and compared them to the structures from the ribovision website. I tried to convey to them that the AFM method I developed could be use to study the structure of large RNA molecules much larger than any available on the pdb.org website. At the very end, I briefly showed them the application of the my technology to discovering the structures

of viral RNA molecules. I hope that I was able to convey to them the importance of RNA structure and about how AFM is an exciting new technology to apply to the field of RNA biology.

I also spent time at the beginning of my lecture discussing my home state of Nebraska. I discussed the prairie ecosystem, the sandhills, and much of the wildlife in my state. Furthermore, I discussed my path to becoming a researcher, and some of the projects I worked on along the way, including my introduction to AFM technology, and how I originally came to Japan to use high speed AFM technology.

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

- Impressions and opinions from a company (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。):