Must be typed

（For JSPS Fellow）

Form B-2
(FY2018)

Date（日付） 26 September 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）: CHOW Jing Shen Zachary （ID No. 18096 ）

- Participating school（学校名）: Tezukayama Junior & Senior High School

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

- Lecture title（講演題目）: Understanding immune cell behavior in the skin using two-photon microscopy

- Name and title of your companying person（講義補助者 職・氏名）
Dr. Sho HANAKAWA

- Lecture format（講演形式）:
◆Lecture time（講演時間） 40 min（分）, Q&A time（質疑応答時間） 10 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））
Microsoft powerpoint and projector

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

My research focuses on a type of T cell with suppressor capabilities, known as regulatory T cells. Their main purpose is to control the duration of inflammation, making sure that no excessive damage is done to the body whilst clearing an invading foreign organism or chemical. To understand the behavior of Tregs during inflammation, I study them in a mouse model of skin inflammation known as contact hypersensitivity, using a microscopy technique known as intravital two-photon microscopy. This allows for an understanding of how Tregs change their movement in response to inflammation, as well as their interactions with other immune cells in the skin.

My lecture began by introducing my research journey from high school in Singapore, to University in Melbourne, Australia. I spoke about my reasons and motivations for embarking on the specific research field that I am currently in. Next, I introduced the premise for my research in Japan, describing the motivations behind it. A basic introduction of the skin was also done, with the various immune cells that maintain homeostasis and mount inflammatory responses to combat external threats. Following that, I introduced the key technique of intravital two-photon microscopy that I utilize to conduct my research and learn about immune cell behavior in the skin. Example videos of skin immune cells such as Langerhans cells, dermal dendritic cells,

monocytes and T cells under steady state and inflammatory conditions were shown to the students. This helped to highlight the usefulness of microscopy as a technique to understand *in vivo* cellular behavior. Lastly, I focused on the main cell of interest for my project, regulatory T cells. I described what their role in an inflammatory response was, and where current knowledge on regulatory T cell function in skin inflammation is lacking. I then demonstrated how data from my research has covered certain areas of this missing knowledge, and how it aids in our understanding of regulatory t cell biology in the skin.

- Overall advice or comments to future participants in the program（今後の講師へのアドバイス）:
Use less technical terms, and speak slowly and clearly so it is easy for students to understand. English accents make it more difficult for students to understand. It is useful to include the Japanese terminology of technical terms that are frequently used in the research being presented.

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

- 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。）
Teachers were helpful and students were earnest about taking the lecture. This program is tough, but highly rewarding. I really recommend fellows and schools to take this opportunity for understanding not only research, but also cultures.