

(For JSPS Fellow)

Form B-5

Date (日付)

2nd July 2013 (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): Binita Shrestha (ID No. P12424)
- Participating school (学校名): Ikeda High School
- Date (実施日時): 1st July 2013 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Basic Concepts in Molecular Biology
(in Japanese) 分子生物学の概念と基礎
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

Molecular cell biology is the study of structure and properties of molecules found within cells and how cells work based on the molecules found within them. The interaction of molecules found within cells underlies what type of cell will be formed and what role it is to play. Key molecules that are studied in molecular cell biology are deoxyribonucleic acid (DNA), ribonucleic acid (RNA) and proteins. DNA carries the genetic information of the cell, RNA carries the genetic information from nucleus to the cytoplasm of the cell and proteins are created in the cytoplasm based on the genetic information found in the DNA. These proteins determine the cell type and function based on the enzymes that are created.

Specific techniques are used in the molecular biology field. One of the important techniques is genetic engineering. Genetic engineering refers to a set of technologies that are being used to change the genetic makeup of cells and move genes across species boundaries to produce novel organism. Organisms created in such a way are called transgenic organisms. One important molecule widely used in the field of genetic engineering is green fluorescent protein (GFP). GFP is very useful in the genetic engineering because it allows us to look directly into the inner workings of the cells as it is easy to find out the position of GFP due to fluorescence it emits.

My research is based on transgenic mice that over express human molecule in immune cells. I gave brief introduction regarding my research.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 80 min (分), Q&A time (質疑応答時間) 20 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))

Used power point slides.

◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

Prof. Teruto Hashiguchi explained in Japanese

◆Name and title of accompanied person (同行者 職・氏名)

Professor Teruto Hashiguchi

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

- Impressions and opinions from accompanied person (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。):

入念な準備ならびに練習をして臨みました。生徒さんたちは熱心に興味深く聴いて下さり生物学への関心が高まってくれたのではないかと期待しています。学校での学習内容が実際の生きた社会の中で最先端の科学として生かされていることに直接に触れることは実にすばらしいと感じました。また、発表してくれたネパール出身のスレスタさんも素晴らしい機会を与えていただいたことに感謝するとともに日本社会のサイエンスに対する取り組みに心を打たれたと思います。ありがとうございました。 橋口照人