

(For JSPS Fellow)

Form B-5

Date (日付)

28/11/2014 (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): Yuma, Suraphong (ID No. P 13016)
- Participating school (学校名): Seishin Gakuen High School
- Date (実施日時): 01/11/2014 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Galaxy Evolution 10 billion years ago when the universe was young
(in Japanese) 100億年前の銀河進化
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

I have come to Japan since 2005 from Bangkok, Thailand, where is only 6 hours by plane away from Japan. Compared to Japan that has four wonderful seasons, Thailand officially has three seasons: summer, rainy, and winter seasons. However, We only feel like summer all year long. The education system in Thailand is normally similar to that in Japan. Before entering a university, we spend 12 years in primary and secondary schools and 4 years for Bachelor degree.

Astronomy is one of the oldest sciences that have been studied over thousand years, but it is not well understood yet. Astronomy can be basically divided into three main categories according to studying methods: theoretical, observational, and instrumental astronomy. Theoretical astronomers try to figure out how the universe and their galaxies are formed theoretically, while observational astronomers use the state-of-the-art instruments constructed by instrumental astronomers to test if the theory is correct or not.

Appearance of a galaxy is different depending on the wavelengths we observe. Observing a galaxy in various wavelengths provides the spectral information of the galaxy. As the universe is expanding and galaxies are moving away from us, the galaxy spectra are shifted redward, which is simply explained by Doppler effect. How far the galaxy is away from us is indicated by "redshift". Combining with the fact that light with wavelengths shorter than $912/1216 \text{ \AA}$ are absorbed by neutral hydrogen in the intergalactic medium, we can identify a lot of galaxies at various redshifts. In other words, we can observe and study thousands of galaxies when the universe was young or when it was still an early universe.

- Language used (使用言語): 英語

- Lecture format (講演形式):

◆Lecture time (講演時間) 60 min (分), Q&A time (質疑応答時間) 30 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))

プロジェクター使用による講演

◆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))

講師本人による日本語説明

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

◆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。):