

(For JSPS Fellow)

Form B-5

Date (日付)

30th, Dec. 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): Yanlei Gu (ID No. P16350)

- Participating school (学校名): Tokyo Metropolitan Tama High School of Science and Technology

- Date (実施日時): 21st, Dec. 2017 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): Mobility in the smart city: development of pedestrian navigation and autonomous driving techniques

- Name and title of your company (同行者 職・氏名)

Mr. Jiali Bao, Ph.D. student in The University of Tokyo

- Lecture format (講演形式):

◆Lecture time (講演時間) 120 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 projector

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

Mobility is a key component of the smart city concept. The development of the intelligent vehicles and the wearable devices (e.g. smartphone, smart watch, smart-glasses) provide the facilities to realize the advanced mobility. By using the personal wearable devices, the pedestrians expect to know the accurate positioning among the many tall buildings in the urban city. For the autonomous vehicle, besides the accurate position, it needs to understand what happens in the surrounding environment and drives like human-drivers. This lecture explains those problems and describes the achievement of me and my colleague.

In this lecture, after the brief introduction of myself, the transportation situation in China is introduced. Especially, the development of high-speed rail is explained. The technology about the intelligent vehicles is the second part of this lecture. The autonomous driving technique is described from both onboard sensor and intelligent function aspects. More important, this lecture focuses on the urban city scenario to explain the challenge of the current autonomous driving and tell the student how to think about the challenge from the scientific point of view. Finally, this lecture presents the next generation of the personal device, wearable smartglasses. The achievement of applying the smart glasses for pedestrian navigation is demonstrated in the lecture. This lecture includes several interesting video demos for explaining the technologies.

- Overall advice or comments to future participants in the program (今後の講師へのアドバイス):
Both basic knowledge and state-of-the-art technologies are expected to be included in the lecture.

Video demo or experiment could be used for increasing student interests.

- 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。)

This Science Dialogue Program is really good for the high-school students. This program can help the high-school students to understand the science more detailed and direct.