

(For JSPS Fellow)

Form B-5

Date (日付)

11/12/2011

(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): VIEHWEIDER Alexander (ID No. P 10760)

- Participating school (学校名): Soma Prefectural High School

- Date (実施日時): 09/12/2011 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Future electric vehicles: Cleaner, safer and more comfortable? Let's think together!

(in Japanese) 将来の電気自動車：よりクリーンで、安全で快適に？ 一緒に考えよう！ _____

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

Apart from presenting myself, my home region South Tyrol/Italy and the motivation to become researcher, I tried to give the high school students some insights in electric vehicle motion control like it is done at my host institution and my particular research object. Electric vehicle with In-Wheel-Motors at each wheel offer opportunities for controlling a vehicle in a comprehensive way. To explore these opportunities, an efficient controller must be devised.

Main points of the lecture were:

- Countries are not only characterized by their economy, food, product, politicians, pop stars, ... but also by their research tradition and succesful researchers. Introduction of some Italian researchers
- Some remarks about the Italian education system
- Why Electric Vehicles become so popular and the connection to the energy supply problem and the Global Warming problem
- Who are the players in the Electric Vehicle market?
- The goals of vehicle motion control: precise, highly performant, safe, comfortable and energy efficient.
- Properties of In-Wheel driven Electric Vehicles and how can these properties used to achieve the goals of vehicle motion control

- The control system design methodology
- How to model mechanical systems like a vehicle?
- Research at Horii Fujimoto laboratory at the University of Tokyo
- How practical it can be to learn math (for example the quadratic equation) at school ☺

Additionally some short videos were shown where the advantage of sophisticated control concepts for Electric Vehicles can be seen in real driving situations.

The lecture was concluded with an encouragement of young Japanese people to foster relationship with people from other countries and bring forward the society in Japan and internationally.

- Language used (使用言語): English (Handout in Japanese with explanation of difficult words or concepts)

- Lecture format (講演形式):

◆Lecture time (講演時間) 80 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))

Power point presentation with use of chalk board and short videos, a toy car has been used for explanation

◆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))

Handout sheets in Japanese, assistance by high school teacher

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

None

◆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。): No accompanying person