

Form B-5

Date (日付)

12/9/11

(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) :

(ID No. P \_\_\_\_\_)

Rosen Diankov 10360

- Participating school (学校名) :

Takasaki Girl's High School

- Date (実施日時) :

(Date/Month/Year: 日/月/年)

6/9/2011

- Lecture title (講演題目) :                      (in English) Robotics Engineering

                     (in Japanese) ロボット工学

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

-

I gave an introduction to my academic career and then introduced robotics engineering to the students using many videos and one demo. My goal was to show the students real-world problems that are facing the Japanese economy today, and how industrial robotics in factories can help.

My introduction consisted of my research at UC Berkeley and Carnegie Mellon University, and how my interests evolved into robotics. I started with an example of the Mars rover robot going to places where no person go to in order to explore our universe. Then I went into my research in service robotics and finally how I came to University of Tokyo. I told the students two of my favorite things in Japan were the train systems and business manners.

My actual lecture first explained the current conditions of factories and why mass-production allows us to produce cars and iPhones so cheap. I went into how important it is to automate production and why it produces more jobs for people. Once I covered the demand for robotics, I talked about what a robot is and how it senses its environment to move intelligently throughout the world. Most of the important robot sensors were covered, and I showed videos of all of them used in action. After that, I went into the Artificial Intelligence components of a robot system to give students an idea how complex programs can get. For the last 20 minutes I was able to get the students' understanding to a level where they could understand my research in **motion planning for robotics**. I showed them several demos of how a robot deliberates about its actions much like a chess player would. I showed how this theory can be used to get a robot to cleanup a kitchen and do work at a factory.

- Language used (使用言語) : English

- Lecture format (講演形式) :

◆Lecture time (講演時間) 90 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))

◆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))

**none**

◆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) :

**students understood most of lecture, did not have to use Japanese**

- 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。) :