

(For JSPS Fellow)

Form B-5

Date (日付)

16/03/2013 (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): Dalla Libera Fabio (ID No. P12048)
- Participating school (学校名): Saga Prefectural Chienkan Senior High School
- Date (実施日時) 16/03/2013 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Biologically inspired robot control
(in Japanese) 生物学的に示唆されたロボットの制御
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

In the first part of the lecture the home country of the presenter, Italy, was briefly presented. In particular, a brief resume of the history of Italy between the fall of the Roman Empire and the unification of Italy in its current form was provided, with references to the Japanese periods as to give a more concrete idea of the timing of the events.
Descriptions of Italy's school system and of the presenter's education path were then provided. Reasons and for becoming a researcher were listed and the interesting points of researcher's life were highlighted.
The process of mimicking nature for solving engineering problems was then described. In particular, it was highlighted that very often living beings can cope with difficult problems by using simple yet efficient and robust solutions and that, for this reason, mimicking natural world can often lead to interesting approaches in the robotics domain. Two examples, coming from presenter's research, were then given.
First, a very simple algorithm, derived from bacteria movement, was briefly introduced. Its application to the control of wheeled robots was explained. Applications in the control of robots with a high number of degrees of freedom, namely reaching for a pneumatic robot arm and crawling of a humanoid robot, were shown.
Second, it was explained how the observation of human-human interaction in sport coaching and dance teaching can provide insights for the realization of human-robot interfaces that allow inexperienced users teaching motions to humanoid robots.
A system based on this concept was introduced, movements created using the system were shown and results of the analysis of the human-robot interaction were given in an introductory form.
- Language used (使用言語): English with repetition of core parts in Japanese

- Lecture format (講演形式):

◆Lecture time (講演時間) 70 min (分), Q&A time (質疑応答時間) 15 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))

Presentation of slides with the aid of a projector

◆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))

Provided Japanese explanation by myself

◆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。):