

(For JSPS Fellow)

Form B-5

Date (日付)

03/07/2014 (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): Lebed Victoria _____ (ID No. P13315)

- Participating school (学校名): Akashi National College of Technology _____

- Date (実施日時): 02/07/2014 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Mathematics behind knots and braids
(in Japanese) 結び目と組み紐の背景にある数学

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

I started with a presentation of the country I was born in (Belarus) and the country I studied in (France), trying to insist on similarities and differences with Japan. For instance, I talked about the nuclear accident in Chernobyl, and compared it with the Fukushima accident. Another example: I gave a list of Japanese words that originate from French. Then I explained my interest in Mathematics. Further, I presented the areas of Mathematics I am interested in (Geometry and Topology), and showed a short animation with an example illustrating the difference between the two areas. An experience called Differential Geometry Gymnastics followed: we learned the difference between the plane and the sphere by observing how our feet/hands turn when our legs/arms move. I then turned to knots and braids, starting with different everyday situations when we meet them. I talked about quipu (a knot-based counting system developed by Incas). Mathematical abstract notions of knots and braids were then presented. Student could practice in the classification of knots by playing with shoe-lace knot models I prepared for them. Their teacher, the accompanying person and myself walked through the class, trying to communicate with all the students. I then showed how we classifying knots in Mathematics. Easy and more challenging examples were given. I finished with the history and applications of Knot Theory.

- Language used (使用言語): English (with slides partly in Japanese)

- Lecture format (講演形式):

◆Lecture time (講演時間) 80 (分) (with a break), Q&A time (質疑応答時間) 10 (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))

projectors and experiments _____

◆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))

Some explications given in Japanese during the break and after the lecture by the accompanying person and the teacher. _____

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

My host: Professor Seiichi Kamada. _____

◆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。):