

(For JSPS Fellow)

Form B-5

Date (日付)

19/02/2013 (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): MYALITSIN, Anton (ID No. P12504 )

- Participating school (学校名): 埼玉県立熊谷高等学校

- Date (実施日時) 18/02/2013 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目): (in English) Nanoscience – Small is beautiful

(in Japanese)

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

In the beginning of the lecture I gave a short introduction about myself and the different countries I lived in (Russia-Germany-England). I explained why I came to Japan, what our research group at Riken is doing and presented Riken itself as an organization.

The second part of the lecture was dedicated to the scientific method and the formulation of new knowledge in science in general. Using the example of the photographer E. J. Muybridge and his freeze frame photography in the 19<sup>th</sup> century of a galloping horse I showed how new techniques and methods are developed from experimenting and how it can lead to new technologies.

In the main part I talked about nanoscience as a new emerging field. I explained the size dimensions of “nano” and using gold as an example I showed how the properties of a material change when it is reduced to nano-size: Gold particles are not “golden”, but red. Subsequently I demonstrated the synthesis of gold nanoparticles, and explained the color change which the students can observe. Then, the synthesis of more complex structures (nanowires) was described and a short explanation of their use as optoelectrical devices was given. Finally, I gave some examples of applications of nanoscale materials in everyday life.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 40 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))

Presentation with a projector; synthesis of gold nanoparticles

- ◆ 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))

Accompanied by a japanese colleage, who translated during Q&A. Difficult words were translated to japanese in both, the slides and the handout.

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

MATSUZAKI, Korenobu

- ◆ 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。):

I was glad to see that all the students listened to the lecture attentively without chattering or sleeping. I was also impressed by the eagerness of the teachers to learn about the cutting-edge research.