

(For JSPS Fellow)

Form B-5

Date (日付)

20/06/2016 (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): Dr. Nicolas Bruot (ID No. P 15769)

- Participating school (学校名):

Yamanashi Prefectural Tsuru High School (Otsuki-city, Yamanashi)

- Date (実施日時): 17/06/2016 (Date/Month/Year: 日/月/年)

- Lecture title (講演題目):

Using micrometric marbles to understand Soft and Condensed Matter Physics

マイクロメートルのビー玉を使って柔らかな物質の物理を理解する

- Lecture summary (講演概要):

The lecture was aimed at showing through experiments phenomena relevant to my research in Soft Matter. After a short introduction on my country of origin, I introduced what Soft Matter, colloids and polymers are, and the phenomena of Brownian motion and diffraction. The students were able to observe, with a microscope, Brownian motion of particles in milk, and in colloids samples. With a diffraction experiment, they also measured the size of the colloids. These experiments were then related to my research in nucleation, optical tweezers and hydrodynamic interaction. I outlined the historical background and motivations for some of these topics. Finally, I gave more details on an optical tweezers setup that I use, and how a typical day in the laboratory looks like.

- Language used (使用言語): English

- Lecture format (講演形式):

◆Lecture time (講演時間) 100 min (分), Q&A time (質疑応答時間) 5 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 on videoprojector and experiments by the students

◆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))

Parts of the slides were translated to Japanese (both written and oral explanations)

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

舘野 道雄 (Michio Tateno), Graduate Student

◆Other note worthy information (その他特筆すべき事項):

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- 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。):

By combining the lecture with slides and the related experiments, the students were able to learn effectively the basics of colloid and polymer sciences. The experimental equipment was provided for every two students, allowing them to directly participate actively. Many students were impressed by the experiment to observe the Brownian motion of fat particles in milk with a microscope. At the end of the seminar, based on what students learned through the lectures and experiments, the lecturer explained the contents and the purpose of his own research.