

Form B-5

Date (日付)

20/12/11 (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): Daniel Packwood (ID No. P10339)- Participating school (学校名): Toyama Prefectural Toyama High School- Date (実施日時): 8 / 12 / 11 (Date/Month/Year: 日/月/年)- Lecture title (講演題目): (in English) Probability and Molecules(in Japanese) 分子と確率

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

Typical chemical systems, such as a beaker of water, contain very many molecules. Because there are so many, it is impossible to know exactly where each molecule is or what each molecule is doing. This means that we often have trouble interpreting experimental data from chemistry experiments. This lecture described how probability, the mathematical study of uncertainty, can be used to make accurate mathematical theories for chemical systems. I first explained to students what theoretical research is and how it accompanies experimental research. After that, we discussed the physics of atom collisions with liquid surfaces and I showed the students how we can visualise the molecular profile of a liquid surface *via* a simple coin flipping exercise. I also gave a short presentation about New Zealand, and another one about the becoming a scientist and the life of a researcher.

- Language used (使用言語): English (oral), 日本語 (PowerPoint slides)

- Lecture format (講演形式):

◆Lecture time (講演時間) 60 min (分), Q&A time (質疑応答時間) 20 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))

PowerPoint presentation via projector. Got students to draw the trajectories of molecules as an exercise.

◆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)

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

The English teacher of Toyama Prefectural Toyama High School (Mr. Kaneda) helped the students with their English during the questions session.

- 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。):