

様式 A-1
(FY2025)

2025 年 12 月 24 日

サイエンス・ダイアログ 実施報告書

1. 学校名: 千葉市立千葉高等学校
2. 講師氏名: Rawan SHEKHANI
3. 講義補助者氏名: なし
4. 実施日時: 2025 年 12 月 23 日 (火) 13 : 45 ~ 15 : 45
5. 参加生徒: 1 年生理数科 15 人、1 年生普通科 4 人、2 年生理数科 10 人、2 年生普通科 2 人 (合計 31 人)
6. 講義題目: クライオ電子顕微鏡によるクラス F の G タンパク質共役受容体構造解析
7. 講義概要: クライオ電子顕微鏡と AI を用いてクラス F の G タンパク質共役受容体構造を解析する
8. 講義形式:
 対面 ・ オンライン (どちらか選択ください。)
 - 1) 講義時間 80 分 質疑応答時間 40 分
 - 2) 講義方法 (例: プロジェクター使用による講義、実験・実習の有無など)
プロジェクター使用による講義
 - 3) 事前学習
 有 ・ 無 (どちらか選択ください。)
使用教材: 講師からもらった情報をもとに本校職員が作成したプリント、カフートをを用いたクイズなど
9. その他特筆すべき事項:
特になし。

Form B-2
(FY2025)
Must be typed

Date (日付)
24/12/2025 (Date/Month/Year: 日/月/年)

Activity Report -Science Dialogue Program-
(サイエンス・ダイアログ 実施報告書)

- Fellow's name (講師氏名): SHEKHANI Rawan (ID No. PE24766)

- Name and title of the lecture assistant (講義補助者の職・氏名)

- Participating school (学校名): Chiba Municipal Chiba High School

- Date (実施日時) 23/12/2025 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):

Part 1) Science Dialogue and structural & cell biology Part 2) Structural basis of Frizzled-Dishevelled coupling

- Lecture format (講義形式):

◆ Onsite ・ Online (Please choose one.)(対面 ・ オンライン)((どちらか選択ください。))

◆ Lecture time (講義時間) 50 + 40 min (分), Q&A time (質疑応答時間) 20 min (分)

◆ Lecture style (ex.: used projector, conducted experiments)

(講義方法 (例: プロジェクター使用による講義、実験・実習の有無など))

Powerpoint presentation and data analysis demonstration

- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

In discussion with the school, my lecture consisted of two parts: the first part focusing on my background and my interests, and how this led me to pursue research, followed by a general introduction into structural and cell biology. The second part was more in-depth on one of my major research projects. First, I introduced myself, where I grew up and lived. I asked the students a few questions about their course interests and studies. I then continued with discussing my own experience during high school, especially regarding the course decisions and the directions I took after high school, during university. I also highlighted the importance of English and the opportunities it brings to work and study in different countries. I then proceeded to give an introduction into cell biology, sample preparation, G-protein coupled receptors (GPCRs) and cryogenic electron microscopy, the main structural biology technique that I used during my PhD and now during my postdoctoral research. A short video and some other visuals were also useful to show the experimental parts of my research. After this first part of my lecture, I went over a list

of questions that were compiled prior to the lecture, and there were some additional questions that the students asked during the lecture as well. After a short break, we continued with the second part of the lecture, which was more in depth on my research on a specific GPCR and its coupling to its intracellular transducer. Then there was some more time for additional questions, and finally I demonstrated computational data analysis and visualization of protein structures to the students.

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

The students showed genuine interest in the subject, and engaged during and after the lecture in the Q&A sections. I was also impressed with their preparation, which I believe made it easier to convey these new concepts from my research. Overall it was a very enjoyable experience, I am grateful for this opportunity, and I hope it was enjoyable for and has benefitted the students in some way.

- Impressions and comments from the lecture assistant (講義補助者の方から、本プログラムに対する意見・感想等がありましたら、お願いいたします.):