

様式 A-1
(FY2025)

2025 年 11 月 11 日

サイエンス・ダイアログ 実施報告書

1. 学校名： 埼玉県立川越女子高等学校
2. 講師氏名： Dr. Xiyun YE (Ms.)
3. 講義補助者氏名： 山下 順正 様
4. 実施日時： 2025 年 11 月 6 日 (木) 9:30 ~ 11:30
5. 参加生徒： 2 年生 34 人 (合計 34 人)
備考：(SSH クラスの生徒)
6. 講義題目： Working with protein and drug discovery
7. 講義概要：
講師自身の研究者としての経歴、博士課程での研究生活、化学と生物学の重要性、ペプチドやタンパク質の役割、HPV とがんに関する研究などを紹介いただきました。また、英語でのコミュニケーションの重要性や、物事にチャレンジしていく大切さを教授いただきました。
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 60 分 質疑応答時間 30 分
2) 講義方法： 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： 講師の方のプレゼン資料や動画
9. その他特筆すべき事項：

Form B-2
(FY2025)
Must be typed

Date (日付)
11/11/2025 (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): Xiyun YE (ID No. P25042)

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

Mr. Junsei Yamashita

- Participating school (学校名): Saitama Prefectural Kawagoe Girl's High School.

- Date (実施日時): 06/11/2025 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):

Working with protein and drug discovery

- 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) 90 min (分), Q&A time (質疑応答時間) 30 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))

used projector

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

In my lecture, I introduced my academic journey and current research on peptide-based drug discovery. I studied organic chemistry at the University of Hong Kong, spent a year at the University of Chicago, completed my Ph.D. in chemical biology at MIT, and now work as a postdoctoral fellow in Prof. Hiroaki Suga's laboratory at the University of Tokyo. I encouraged students to explore widely during their studies, discover what excites them, and appreciate how chemistry and biology together explain how life works.

I described what pursuing a Ph.D. is like, from learning under supervision to becoming an independent researcher. I talked about many career paths after graduate school, including academia, industry, consulting, and start-ups. I emphasized that curiosity, persistence, and learning from failure are key to scientific growth.

In the science section, I explained how amino acids form peptides and proteins, and how chemists

can design new “unnatural” peptides using modern solid-phase synthesis. I shared examples from my work, such as inhibitors targeting the HPV E6 protein and peptide mimics for FGF-Klotho signaling related to aging. I also introduced our RaPID system, which combines in-vitro translation and mRNA display to discover novel cyclic peptides.

I concluded by encouraging students to stay curious, be open to new experiences, and not fear mistakes, reminding them that science is global, collaborative, and that most scientists are non-native English speakers.

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

N.A.

- 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。):

Conclusion: Find problems you are curious about, and research them!



Working in research is great, but it can be intimidating at first, so:



Don't be afraid to learn different things/change your topics



If you don't know what to do, study A general theme you're interested in



With time, you will find things you like more than others



When you get the chance, pick the jobs that make you happy



Don't be afraid to speak English