

様式 A-1  
(FY2025)

2025 年 12 月 18 日

## サイエンス・ダイアログ 実施報告書

1. 学校名: 多摩高校
2. 講師氏名: Dr. Wenhan NIE
3. 講義補助者氏名: Dr. Aa haeruman Azam
4. 実施日時: 2025 年 12 月 17 日 (水) 16:00 ~ 17:30
5. 参加生徒: 1 年生 1 人、 2 年生 27 人、 年生 人 (合計 28 人)  
備考: (3 年次「生物」選択の生徒)
6. 講義題目: 細菌のファージ防御システム解明と効果的なファージ療法開発
7. 講義概要: 自己紹介、英語学習の重要性及び勉強法、細菌のファージ防御システム解明の重要性とその方法、質疑応答
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 45 分 質疑応答時間 20 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: 本校理科教員による講義
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)  
17/12/2025 (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): Nie Wenhan (ID No. P25093)
- Name and title of the lecture assistant (講義補助者の職・氏名)  
Azam AA Haeruman
- Participating school (学校名): Kanagawa Prefectural Tama Senior High School
- Date (実施日時): 17/12/2025 (Date/Month/Year: 日/月/年)
- Lecture title (講義題目):  
From Hating English to Viruses Scientist: A Journey into the Microbial Battlefield between Phage and Bacteria
- 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) 60 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))  
The presentation of slides was conducted, and the students' questions were answered.
- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

In this lecture, the speaker shares a personal journey from growing up in Sichuan, China, to becoming a researcher studying bacteriophages and antibiotic-resistant bacteria. Starting with familiar topics such as food culture and daily life, the talk gradually introduces how curiosity about the world can lead to unexpected academic and career paths.

The lecture highlights how the speaker did not originally plan to pursue science and even struggled with English during high school. However, after entering university, exposure to international scientific research revealed that English is the primary language of modern science. This realization motivated the speaker to relearn English using effective study methods, eventually enabling participation in international research projects and collaborations.

The scientific focus of the lecture centers on one of today's most serious global challenges: antibiotic-resistant bacteria. According to international projections, such bacteria may become a leading cause of death worldwide after 2050. To address this problem, the speaker introduces

bacteriophages—viruses that specifically infect bacteria—and explains how they interact with bacterial cells.

Students are guided through the basic concepts of bacteria, antibiotic resistance, and bacteriophages in an accessible way. The lecture then explores bacterial defense systems, describing how bacteria have evolved sophisticated molecular strategies to protect themselves from phage infection. These systems function like molecular scissors, alarm systems, or self-destruct mechanisms, and they offer valuable inspiration for developing future medical and biotechnological tools.

Beyond science, the lecture emphasizes broader messages: the importance of curiosity, the value of perseverance, and the role of English as a bridge to the global scientific community. By sharing real experiences, the speaker encourages students to stay open-minded, explore their interests, and not be discouraged by temporary difficulties.

The lecture concludes with the hope that students will see science as an exciting, creative field and feel empowered to explore the world beyond their comfort zones

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

The students at Kanagawa Prefectural Tama Senior High School were attentive, curious, and actively engaged during the lecture. I also sincerely thanks JSPS for their support and Kanagawa Prefectural Tama Senior High School for organizing and hosting the event.

- 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。):

Such programs are highly meaningful, as they allow Japanese senior high school students to learn directly from active researchers and help them reflect on and plan their future paths. We sincerely thanks the organizers (JSPS) and Kanagawa Prefectural Tama Senior High School for their support.