

様式 A-1  
(FY2025)

年 月 日

## サイエンス・ダイアログ 実施報告書

1. 学校名：兵庫県立川西緑台高等学校
2. 講師氏名： Dr. Aristide Laurel MOKALE KOGNOU
3. 講義補助者氏名： 井學 克基
4. 実施日時： 2025 年 12 月 18 日（木） 11 : 10 ~ 12 : 15
5. 参加生徒： 1 年生 38 人、 年生 人、 年生 人（合計 38 人）  
備考：(例：理数科の生徒) 文理探究科の生徒
6. 講義題目： The Power of Microbes: Understanding Microbial Life & Its Applications

講義概要：The research focuses on improving the breakdown of PFAS, harmful chemicals found in many products such as non-stick cookware and water-repellent fabrics. These chemicals can pollute the environment and are tough to remove. The study investigates how certain soil bacteria can help degrade PFAS more effectively. By understanding how these bacteria work, we aim to enhance their ability to break down these harmful substances. This could lead to better methods for cleaning up contaminated soil and water, making our environment safer and healthier. Overall, the research looks at a natural solution to a serious pollution problem.

7.

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 50 分 質疑応答時間 10 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：講師の方より頂いた事前学習英単語や講義概要の英文、ウェブサイトのリストをまとめたプリント

9. その他特筆すべき事項：

Form B-2  
(FY2025)  
Must be typed

Date (日付)  
23/12/2025 (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) MOKALE KOGNOU Aristide Laurel (ID No. P24722)
- Name and title of the lecture assistant (講義補助者の職・氏名)  
IGAKU Katsuki (Master student)
- Participating school (学校名): Hyogo Prefectural Kawanishi Midoridai High School
- Date (実施日時): 18/12/2025 (Date/Month/Year: 日/月/年)
- Lecture title (講義題目):  
The Power of Microbes: Understanding Microbial Life & Its Applications
- 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))  
Used projector

- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.  
The lecture explored the culture of Cameroon, the significance of microbial life, and the applications of microbial biotechnology. The presentation started with an overview of Cameroon, highlighting its geography, population, languages, religions, and ethnic groups. It emphasised Cameroon's cultural diversity, often referred to as "Africa in miniature" for its varied geography and cultures. The presentation also delved into the "Bamiléké" ethnic group, their traditional costumes, food, tourist places, and famous personalities from Cameroon. The second part of the presentation focused on microbial biotechnology. It explained microbes, their ubiquity, and their ecological importance. It discussed the applications of microbial biotechnology, including antibiotic production, enhanced food production, and environmental remediation. It also highlighted the role of microbes in fermentation processes, such as brewing beer, baking bread, and producing yoghurt. The presentation concluded with a discussion of innovative solutions driven by microbes, including the use of *Pseudomonas putida* in bioremediation, *Arthrobacter* species in plastic degradation, and *Saccharomyces cerevisiae* in food production and fermentation. It also included quizzes to engage the audience and reinforce key points.

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

- 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。):

Mr. IGAKU's role as a lecture assistant was instrumental in bridging language barriers and ensuring that students fully grasped the content being presented. His ability to translate concepts into accessible Japanese facilitated comprehension and fostered an engaging learning environment. Throughout the lecture, Mr. IGAKU skillfully interwove cultural references and local context into his translations, making the material more relatable and relevant to the students. Moreover, his enthusiasm and clear enunciation encouraged active participation, prompting students to ask questions and engage in discussions that enriched the overall experience. By maintaining a balance between fidelity to the original content and the nuances of the Japanese language, Mr IGAKU enhanced the student's understanding and retention of the subject matter. His dedication to ensuring every student could connect with the lecture was evident, creating a supportive atmosphere that empowered students to express their thoughts and inquiries freely. Overall, Mr. IGAKU's contributions were vital to the success of the lecture, transforming it into an interactive and impactful educational experience.