

様式 A-1
(FY2025)

2025年 12月 8日

サイエンス・ダイアログ 実施報告書

1. 学校名: 茨城県立土浦第一高等学校
2. 講師氏名: Dr. Thi Bao Chau BUI
3. 講義補助者氏名: なし
4. 実施日時: 2025年 11月 19日 (水) 16:00 ~ 18:00
5. 参加生徒: 1年生 33人、 年生 人、 年生 人 (合計 33人)
備考: (Science Explorer Group(土浦第一高校アメリカ科学研修)参加予定者)
6. 講義題目: 「Hidden Emulsifiers in Spices: A First Look」
7. 講義概要: 自己紹介・出身国の紹介・研究者になった経緯・現在行っている研究紹介
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 20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)
プロジェクト使用による講義
3) 事前学習
有 ・ 無 (どちらか選択ください。)
使用教材: 講師の先生より事前に送っていただいた講義概要(英文)および単語リスト
9. その他特筆すべき事項:
 - ・自己紹介や出身国の紹介も交えながら、研究者になった経緯をお話しいただいたことで、生徒のキャリアに対する意識も高まったと感じた。
 - ・研究紹介では、身近な例を挙げて分かりやすく説明していただき、英語も非常に聞き取りやすかったため、講師の先生の研究内容について多くの生徒たちが理解を深めることができた。
 - ・研究で用いられているスパイスの資料を見せていただき、一層生徒の関心が深まった。
 - ・英語での質疑応答に積極的にチャレンジする生徒が多く、時間内で質問できなかった生徒たちにも終了後に個別に対応していただいた。

Form B-2
(FY2025)
Must be typed

Date (日付)
20/11/2025 (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): Bui Thi Bao Chau (ID No. P24092)

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

- Participating school (学校名): Ibaraki Prefectural Tsuchiura First High School

- Date (実施日時): 19/11/2025 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):

Hidden Emulsifiers in Spices: A First Look

- 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) 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))

I used projector and showed samples for observation

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

The lecture consisted of 2 main sections: (1) Self-introduction and introduction about my home country Vietnam, and (2) introduction to emulsions and my research on investigating potential emulsifiers in spices. In the first section, I introduced about my journey up to the current JSPS fellowship, as well as what motivated me to become a scientist. An overview of Vietnam was shown, including basic information such as total area, population, lands and cities, climate, language, and cuisine. The second section started with an introduction about the concept of "emulsion", "emulsification" and "emulsifier". With the demand in natural, safe and sustainable emulsifiers, the attention is shifted to newer natural sources and spices are one of them. Spices not only give food their unique aroma and flavor but also contain natural compounds beneficial for health and food processing. My research focuses on the emulsifying abilities of different spices—that is, how well they help oil and water mix and stay stable together. Simple pastes were prepared from various spices (total of more than 20 types), and their stability was observed over time. A few spices forming stable ("positive") and unstable ("negative") pastes were selected for further analysis of oil and protein contents, and their behaviors under heating, freezing/thawing,

and salinity. Some spices showed strong emulsifying properties or unique mechanisms, suggesting potential existence of emulsifiers and thus applications in natural and sustainable food processing. The lecture was wrapped up with easy-to-remember take-home messages about not only the research but also how science can be initiated and conducted, followed by a short introduction to University of Tsukuba and my host laboratory.

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

In addition to the slides and handouts, I also prepared spice essential oils (with advanced confirmation about allergy conditions of students) and emulsions for students to observe. All of the participating students were very engaging from the first moment, answering my small questions and paying very close attention to the lecture. By confirming the English level and knowledge about science in advanced, my lecture seemed to have been well received and understood by the students. I received so many questions from the students about both my research and other interesting matters such as my middle name, even after the designated Q&A time, which was amazing. The teachers were also very welcoming and supportive, which made me feel less nervous. I really appreciate this opportunity and am willing to participate again in the future.

- 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。):