

様式 A-1
(FY2025)

2026 年 2 月 19 日

サイエンス・ダイアログ 実施報告書

1. 学校名：和歌山県立向陽高等学校
2. 講師氏名：Dr. Akotchiffor Kevin Geoffroy DJOTAN
3. 講義補助者氏名：松田 陽介教授
4. 実施日時：2026 年 2 月 13 日（金） 14:10 ～ 16:00
5. 参加生徒：1 年生環境科学科 68 人、 年生 人、 年生 人（合計 68 人）
備考：(例：理数科の生徒)
6. 講義題目：The beautiful soil fungi that help plants
7. 講義概要：前半：ベナンの文化や科学者になった理由、研究の面白さについて
後半：菌類の基礎、その可能性について
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 90 分 質疑応答時間 25 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：講師作成スライドと講演内容要旨、キーワード、本校作成の質問フォーマット
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)
14/02/2026 (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): DJOTAN Akotchiffor Kevin Geoffroy (ID No. P24093)

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

Yosuke MATSUDA, Mie University, Laboratory of Forest Mycology, Professor

- Participating school (学校名): Wakayama Prefectural Koyo High School

- Date (実施日時): 13/02/2026 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):

The beautiful soil fungi that help plants 「植物を助ける美しい土壌の菌類」

- 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) 75 min (分), Q&A time (質疑応答時間) 15 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))

Slides presentations and direct conversations with students.

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

For plants to grow well, nutrient and water are needed which plants use in addition to light to produce carbohydrates through photosynthesis. With these carbohydrates, plants grow and produce seeds, fruits, roots, and or and vegetables that humans eat. Unfortunately, many plants are not good at mobilizing needed water and nutrient resources sufficiently by themselves. On the other hand, some soil fungi called arbuscular mycorrhizal fungi (AMF) are very good at mobilizing water and nutrient from the soil. Unfortunately, they cannot produce carbohydrates by themselves, which they also need to grow. Thus, plants and mycorrhizal fungi associate to form mycorrhiza (plant root + fungal hyphae) where they exchange water, nutrients, and carbohydrates. In my research, I am searching for these beneficial fungi hidden in forests so that we can use them in agriculture to produce healthy foods for humans.

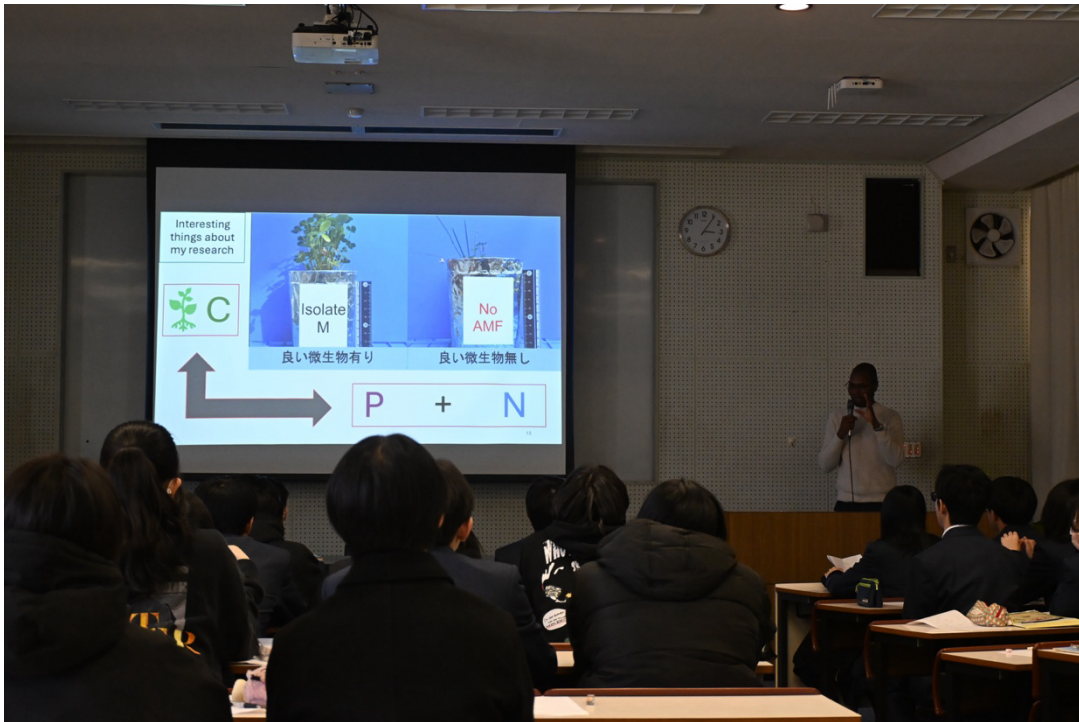


Photo 1: Kevin explaining how arbuscular mycorrhizal fungi interact with plants

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

I made students think about how complex an ecosystem could be at a microscopic level using a simple discovery from my research. Plants have their roots inside the soil where AMF establish contacts with plant roots to start mycorrhizal associations. During a successful association, these AMF will produce spores inside the roots of their host plant. Inside these AMF spores, many bacteria are living. Through the event, students also realized the importance of discovering and understanding foreign cultures in fostering mutual understanding and good communication among people from different socio-cultural backgrounds.

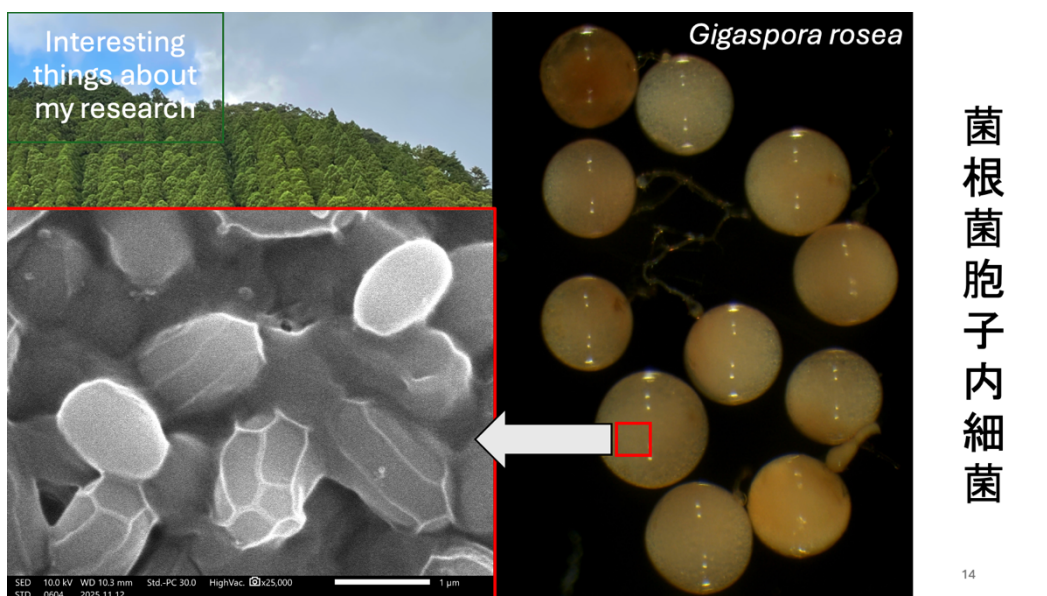


Figure 1: A slide showing complexity of life on earth

- 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。):

The lecture assistant, my current host researcher at Mie University (Professor Yosuke Matsuda), was impressed by the school's facility for science and my enthusiasm in communicating and advising high schoolers. After the event, he said “ケヴィンさんの分かりやすい英語による日本での研究経験、ペナンと日本の文化の違いの講義が生徒皆さんに伝わり、国内外での活躍を心に秘める良い機会になったのではと思いました。私もケヴィンさんのお話を通して、学生さんに届く言葉、振る舞いの仕方を振り返る良い機会となりました。”



Photo 2: Students gathered to explore fungi and bacteria-related books brought to the school from Mie University. The content of the books was briefly explained by Professor Matsuda