

2024年12月27日

サイエンス・ダイアログ 実施報告書

1. 学校名・実施責任者氏名: 千葉県立佐倉高等学校 ・ 浅野 裕史
2. 講師氏名: Dr. Tristram H. JENKINS
3. 講義補助者氏名: Liu Longjie
4. 実施日時: 2025年1月9日(木) 14:55~16:45
5. 参加生徒: 2年生 30人、 1年生 1人、 3年生 0人 (合計 31人)
備考: 理数科・普通科の参加希望生徒
6. 講義題目: 全固体電池の性能向上のための電荷移動制御
7. 講義概要:

This lecture will introduce students to my personal journey as a battery scientist from Australia to Japan, emphasizing the importance of curiosity and international collaboration in science and engineering. I will share some important insights into my research on rechargeable lithium and sodium-ion batteries, explaining how surface science plays an important role in making batteries safer, more efficient, and environmentally friendly. The lecture will include some simple analogies to help students understand the subject of batteries, a hands-on demonstration of a fruit battery, and discussions about how science can help you travel the world and solve global challenges.
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 85 分 質疑応答時間 15 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 (どちらかに○をしてください。)
使用教材
9. その他特筆すべき事項:

Form B-2
(FY2024)
Must be typed

Date (日付)
12/01/25 (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): Tristram Henry Morgan Jenkins (ID No P23719)

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

Liu Longjie, PhD Student

- Participating school (学校名) Chiba Prefectural Sakura High School

- Date (実施日時): 09/01/2025 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):

Making batteries better with surface science

- 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, conducted experiments, student participation in experiments

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

• This lecture introduced students to my personal journey as a battery scientist from Australia to Japan, emphasizing the importance of curiosity and international collaboration in science and engineering. I shared some important insights into my research on rechargeable lithium and sodium-ion batteries, explaining how surface science plays an important role in making batteries safer, more efficient, and environmentally friendly. The lecture included some simple analogies to help students understand the subject of batteries and energy storage, a video of how battery cells are made and tested in the lab, a hands-on demonstration of a fruit battery, and discussions about how science can help you travel the world and solve global challenges.

Students actively participated throughout the session, showing great enthusiasm for the topic. They particularly enjoyed hands-on activities like the handing out of battery cell components and fruit-battery experiment, which I hope helped make the complex principles of battery design more relatable and engaging.

The welcoming nature of the school staff and the positive atmosphere greatly enhanced the experience for myself and my assistant. The event provided an excellent platform to inspire

curiosity about science and foster interest in battery technology's critical role in addressing global energy challenges. Overall, I believe the lecture was a rewarding experience for both the students, myself and my lecture assistant, Liu

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

Students from this school were very respectful and asked lots of questions. My impression is that they were genuinely interested in the subject matter and really enjoyed the talk. The staff were also very kind and inviting and did great to communicate with me given what little english they were able to speak. My lecture assistant was very helpful in communicating with staff and helping confirm arrangements on the day.

- 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。):

Liu thoroughly enjoyed the lecture and explaining concepts to the students in Japanese when required and helping answer their questions. He thought the students were very interested in the subject and were impressed by the level of questions some students were asking.

