

様式 A-1  
(FY2025)

2025 年 7 月 24 日

## サイエンス・ダイアログ 実施報告書

1. 学校名: 大分県立佐伯鶴城高等学校
2. 講師氏名: Dr. Magdeline Elizabeth CARRASCO APOLINARIO
3. 講義補助者氏名: 加藤 亜美
4. 実施日時: 2025 年 7 月 18 日 (金) 14:00 ~ 16:00
5. 参加生徒: 1 年生 128 人、 2 年生 139 人、 3 年生 2 人 (合計 269 人)  
備考: (例: 理数科の生徒)
6. 講義題目: Obesity Research
7. 講義概要: 研究テーマである代謝性疾患のメカニズムの解明についての講義。ゼブラフィッシュを動物モデルとして用い、AI を活用した行動分析などについての説明があった。最後には、高校生が科学分野に携わる際の姿勢についての話もあった。
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 35 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)  
体育館での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: 講師のプレゼンテーション資料
9. その他特筆すべき事項:  
特記事項なし

Form B-2  
(FY2025)  
Must be typed

Date (日付) 23/07/2025  
\_\_\_\_\_  
(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): Magdeline Elizabeth Carrasco Apolinario (ID No. P24115)

- Name and title of the lecture assistant (講義補助者の職・氏名)  
6th year Oita University medical student ・ Ms. Ami Kato

- Participating school (学校名): Saiki Kakujo High School

- Date (実施日時): 18/07/2025 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):  
Introduction and Obesity Research

- 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) 40 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))

Used a projector and microphone with sound system on a hall, symposium style. Then participated on a round table with students interested in asking questions and sharing ideas for the future.

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

・ Introductory lecture of my home country, my life in Japan and my professional background.  
My name is Magdeline Elizabeth Carrasco Apolinario, I am medical doctor from a country named the Dominican Republic. DR is an Island country in the Caribbean Sea, in America and we share the island with another country (Haiti). Living on a Caribbean Island means you are always in the summer. You can always go to the beach or the river side for a dive and to hang out with friends. Our Island was the first place where Europeans lived after arriving in the Americas, that is why we have the first of many things in the Americas (first cathedral, the first hospital, first university, first city in America). If you visit the country, you will see all of these first places and can enjoy lots of tropical fruits and a lot of baseball. DR and Japan have a good relationship of cooperation and friendship. Japan has helped the DR in the medical field many times; they helped building a hospital that is now one of the main city hospitals in the island, and when I decided to apply for my doctoral program, knowing about the relationships of Japan with hospitals in my country where a good place to start.

- Science lecture about obesity research.

Medical science is a broad field of studies that focuses on the human body, aiming to understand how the human body works. It constitutes the foundation for the practice of medicine. Meanwhile, medical research is the investigation of the health and disease conditions, as well as the mechanisms behind them. Also, works on the developing methods to detect and treat illnesses, and improve human health.

My research focuses on a medical condition related to Obesity that has increasingly become very important worldwide: the metabolic dysfunction associated hepatic steatosis (MASLD). When the adipose tissue becomes unhealthy, there is fat cell dysfunction with increase inflammatory state and enlargement of the adipocytes which forms a vicious cycle that damage other organs. In order to study and evaluate the mechanisms behind this phenomenon; I use an often-employed research tool called “animal models”. These models are created by researchers to mimic specific diseases or conditions which allow to explore the mechanisms associated with this disease and test possible treatments and optimize our current knowledge and prevention of the disease. By submitting the models to similar metabolic conditions, genetic modifications or AI based analysis it is possible to explore the dynamics behind the adipose tissue dysfunction and the effect in other organs such as the liver.

In science, a genuine desire to answer a question will open the opportunity to develop skills to work and discover many new things and by “Standing in the shoulder of giants”. Study and learn from the people that started before you and you will be already half way of your destination.

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

The experience is invaluable for the continuity of science and exploring the younger student's expectations and hopes. If we could get some feedback from the activity from the schools or students to prepare and develop new targeted activities in the future, it would be a great addition to this great experience.

- 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。）:

サイエンスダイアログに参加して

補助者の立場ではありましたが、サイエンスの魅力を伝えられる場を、講演者の Magdeline さんや教員の先生方と作り上げることができ、自分にとってはまたとない貴重な経験となりました。学生さんがどのような感想や考えを持ったか、講演に対する学生さんのフィードバックを頂けたり、過去のフィードバックを参照出来たりを拝見できれば、事前に学生さんのニーズやモチベーションを知れ、講演準備に役立てることができると思いました。