Web 掲載用

SD4612
※弊会記入欄

（学校用）

様式 A-1
(FY2025)

令和7年7月16日

サイエンス・ダイアログ　実施報告書

1. 学校名: 東京都立多摩科学技術高等学校

2. 講師氏名: Dr. Made Sandhyana ANGGA

3. 講義補助者氏名: 荒木　秀祐

4. 実施日時:　令和7年　7月15日 （火） 14:00 ～ 16:00

5. 参加生徒:　　3年生　1人、　　2年生　19人、　　1年生　12人 （合計　32人）
備考:全員科学技術科の生徒

6. 講義題目: From Sewers to Science —— How Wastewater Reveals Hidden Public Health Threats
下水から科学へ:下水が明かす見えない公衆衛生のリスク

7. 講義概要:
磁性ナノ粒子濃縮とバイオセンサーを用いた下水中の病原微生物検出技術の開発

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　　30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: 講義内容の英語レジュメ、講義当日に使用する PTT の打ち出し

9. その他特筆すべき事項:

科学研究を環境とのコミュニケーションとして捉える視点が、多くの高校生の心に響いた。

For Web posting

SD4612
※弊会記入欄

Form B-2
(FY2025)
Must be typed

Date（日付）
16/07/2025 （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）: Made Sandhyana ANGGA （ID No. P24103 ）

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

- Participating school（学校名）: Tokyo Metropolitan Tama High School of Science and Technology

- Date （実施日時）: 15/07/2025 （Date/Month/Year:日/月/年）

- Lecture title（講義題目）:
From Sewers to Science: How Wastewater Reveals Hidden Public Health Threats

- 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

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

”On July 15th, 2025, I gave a lecture to high school students in Japan as part of JSPS Science Dialogue program. The presentation aimed to introduce students to the role of science, particularly microbiology, in addressing environmental and public health challenges.

The lecture began with a self-introduction and a brief explanation related to my home country, Indonesia, through visuals of daily life, culture, and nature. I introduced the environmental issues Indonesia faces, particularly those related to water quality, pollution, and waste. This naturally led into my motivation for becoming a scientist, driven by a desire to contribute to environmental solutions, both locally and globally.

After that, I introduced the concept of the Sustainable Development Goals and the One Health approach, emphasizing the interconnectedness of human, animal, and environmental health. To connect the abstract concepts to real-world science, I guided the students through the water cycle

and introduced wastewater-based epidemiology, a relatively new approach for public health surveillance by detecting and tracking pathogens in community wastewater. I showed how WBE was used during the COVID-19 pandemic and how it is now expanding to my research now, related to sexually transmitted infections.

The lecture concluded with a motivational message, encouraging students to see science as a tool to solve real-world problems, and communicate across cultures. I emphasized the importance of communication, especially in English, as a key tool that scientists use to collaborate and share knowledge globally.

Throughout the Q&A session, students showed curiosity and asked questions, even those beyond the scope of my topic. I was especially pleased to engage them in discussions about the broader role of science in society and how to face challenges from different perspectives. Overall, this experience was both meaningful and enjoyable."

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

"While the goal was to inspire the students, I also found myself learning from them, especially about how to adapt my public speaking style, connect more effectively with younger audiences, and keep explanations simple yet engaging. It was a valuable experience in both directions."

- 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。）:

His presentation was very interesting and, I believe, served as an inspiration for the students to pursue a career in science. While I felt that native-level English might have been challenging for high school students, the slides included many illustrations and occasional simple Japanese, which likely made the content understandable.


One Health: People, animals, and the planet are connected
60%
20%
75%
40%
✓ Pathogens (bacteria, protozoa, and viruses) can cause diseases and can move between humans, animals, and environment.
✓ Water is a big part of this connection.