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（学校用）

様式 A-1

(FY2025)

2026 年 3 月 24 日

サイエンス・ダイアログ　実施報告書

1. 学校名: 仙台市立仙台青陵中等教育学校

2. 講師氏名: Dr. Suprokash Koner

3. 講義補助者氏名:なし

4. 実施日時: 2026 年 3 月 18 日 （ 水 ） 9 : 40 ～ 11 : 20

5. 参加生徒: 4 年生(高 1) 125 人、 年生 人、 年生 人（合計 人）
   備考:（例:理数科の生徒）

6. 講義題目:環境学

7. 講義概要:微生物と植物によるニッケル回収メカニズムと，持続可能な資源利用への応用

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 65 分 質疑応答時間 35 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: KONER 博士から事前に送っていただいた自身の研究の概要とキーワードをもとに作成した，本校独自の教材

9. その他特筆すべき事項:

JSPS Science Dialogue Activity Report

Name: Dr. Suprokash Koner
Position: JSPS Postdoctoral Fellow
Affiliation: Tohoku University, Japan
Date of Activity: March 18, 2026
Host Institution: Sendai Seiryo Secondary School, Sendai, Japan

1. Title of the Activity

Science Dialogue Lecture: “Microbial-Plant Nickel Recovery Mechanism and Its Application for Sustainable Resource Utilization”

2. Purpose of the Activity

The purpose of this Science Dialogue activity was to introduce high school students to advanced research in environmental science, particularly focusing on microbial-plant interactions and sustainable resource utilization. The lecture aimed to promote scientific curiosity, enhance understanding of global environmental challenges, and encourage students to consider careers in science and research.

3. Overview of the Activity

The lecture was conducted for approximately 137 students (10th grade), along with participating teachers. The session was structured to ensure both knowledge transfer and student interaction.

Program Schedule:

09:40 – 10:45: Lecture (65 minutes)
10:45 – 11:20: Question & Answer Session and Discussion (35 minutes)
The lecture was delivered in English, and support for Japanese explanation was provided by the host teacher to facilitate better understanding among students.

4. Content of the Lecture

The lecture content was designed to be accessible and engaging for high school students. The main topics included:
Concept and applications of phytomining
Role of microorganisms and plants in nickel bioavailability in soil
Mechanisms of nickel accumulation and recovery using plant-microbe systems
Future perspectives of phytomining on sustainable resource recovery

27 presentation slides were used to explain the concepts in a clear and structured manner. The

lecture also emphasized the importance of responsible environmental stewardship, encouraging students to think of themselves as future contributors to sustainability.

5. Student Engagement and Feedback

Although students were relatively reserved during the discussion session, their engagement was evident through attentive listening, note-taking, and focused participation. According to feedback from the host teacher:

Students showed strong interest in the topic

They were impressed by the innovative approach to environmental challenges

The concept of working as a “caretaker of nature” was particularly impactful

Teachers also expressed that the lecture was inspiring and meaningful for both students and staff.

6. Outcomes and Impact

The activity successfully achieved its intended objectives:

Enhanced student awareness of environmental science and sustainability

Stimulated interest in interdisciplinary scientific research

Provided exposure to real-world applications of microbiology and plant science

Fostered international academic exchange and outreach

The session also contributed to strengthening the connection between academic research and secondary education.

7. Materials Provided

The presentation slides were shared with the school in PDF format after the lecture to support students’ review and reflection activities.

8. Conclusion

The Science Dialogue activity was successfully conducted and well received by both students and faculty members. It provided an effective platform for communicating advanced scientific research in an accessible manner. The positive response from participants indicates the value of such outreach programs in motivating young students and promoting scientific awareness. The activity also opens opportunities for future collaboration and continued engagement.