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Form B-2
(FY2022)
Must be typed

Date（日付）
08/10/2022 （Date/Month/Year：日/月/年）

Activity Report -Science Dialogue Program-
（サイエンス・ダイアログ事業 実施報告書）

- Fellow's name（講師氏名）: HUANG ZICHEN （ID No. P21397 ）

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

- Participating school（学校名）: Koshi Senior High School

- Date （実施日時）: 2022/10/08 （Date/Month/Year:日/月/年）

- Lecture title（講義題目）:
Sensing techniques for next generation of smart agricultural robots

- 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） 80 min（分）, Q&A time（質疑応答時間） 20 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.

With the development of society, the world population is expected to reach 9.7 billion in 2050. Increasing grain and vegetable production is essential for this upcoming 9.7 billion society, and countries are now focusing on agricultural mechanization.

Comparing Western countries with Asia, the farming methods are very different. Since the agricultural land is relatively large in Europe and the United States, it is possible to carry out agricultural work using a large agricultural machine. On the other hand, due to the relatively large population in Asia, paddy rice cultivation, which can be expected to yield higher yields, is the mainstream. Since paddy rice cultivation requires more labor, small-scale dense farming methods are adopted in Asia. Furthermore, this method has the advantages of high yield, high quality, and high safety.

Looking at Japanese agriculture, the mechanization rate of agricultural work in the fields has already reached the highest level in Asia. However, in 2009, there were about 1680,000 agricultural workers, and the average age was 67.0. Therefore, agricultural automation using unmanned agricultural machinery is extremely important to solve the problems of aging

agricultural workers and to decrease the number of agricultural workers. In addition, as the number of agricultural workers decreases, the need for unmanned agriculture for large-scale agricultural production is increasing. In addition, consumers' needs for high-quality agricultural products are constantly increasing, so "smart agriculture" that incorporates cutting-edge technology into agriculture is considered a field that will develop significantly in the future.

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

- Impressions and comments from the lecture assistant（講義補助者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。）:

Nishikawa sensei gave me and his students very good support. Before the lecture, he prepared the projector, printed out the PPT and lecture summary. He also shared the key words for the students, so the students had enough time to prepare and learn some basic information. These contributions helped the students a better understanding of the lecture.