◇Technology and Creation of Industry

Science-technology is created by human for improvement of life and future of bright earth. However, we estimate that advanced science technology which come in life closely is not always good influence in aspect of protection of natural environment and culture. In this group, we conquer the issues about "the two-sidedness of science-technology", think over the way of using good science technology to protection of environment and culture, and challenge suggestion of new industry creation. In science technology of various field, we focus on 1. Information and Mechanical Engineering (mainly AI and VR) and the way of use, and 2. Energy utilization in particular. We send new idea which properly apply to energy use and protection of natural environment, traditional culture and life by using science technology as means.

● "Relevance between science-technology and creation of industry"

Science-technology have brought material wealth to our living, and influenced social and economical development. We think this is because many innovation and business using science-technology have been created as new factories. So, we argue that it is necessary for sustainable social-environmental development to create new industry utilizing science-technology.

● "Presentation about science-technology and environment"

Each participating student is to make a presentation on an example of science technology's impact on everyday life. (5 minutes for presentation and 5 minutes for Q&A) Through the presentation, we exchange opinions each other about "the two-sidedness of science-technology in environment".

● "Coexistence with AIs"

AIs have big possibilities and advantages that they can be used to improve convenience of life and business, and protect environment, while we fear that AIs may replace humans and have the fear of Singularity. We will discuss a way of coexistence with AIs, based on the two-sidedness of them.

①The ways of using and thinking of AIs in the world

AI technologies include a voice and image recognition, natural language processing, deep learning, and probabilistic reasoning, and so on. In the world, these techniques are used in many industries including services, medical care, information and communication, environment and energy.

However, there is great concern that AI may take human work. Even if it is wise and useful for reducing costs to use AIs, we can protect our employments by limiting the number of people being replaced with AIs. Furthermore, there is a threat that humans may be controlled by AIs with high intelligence, but we humans have the responsibility of putting them under control and should have them support us, as a way of coexistence with AIs. In other words, commensalism that humans have profits, and AIs have neither profits nor loss is ideal.

Overseas participants are expected to share information on how AIs are used in their countries and their opinions on AIs.

② "How to come to terms with the negative part of AI"　　Lecture by Hiroshi Yamakawa

A guest lecture is being planned. The guest is Hiroshi Yamakawa, the chief of the Dwango Artificial Intelligence Laboratory. He has deep knowledge and insight of the field of artificial intelligence, the solution to environmental problems, and development of the technology.
We will be able to learn about the two-sidedness of AIs including possibilities of AIs and ethical problems causing by development of AIs.

● "The way of using of AIs and VR in combination to preserve culture and protect environment"
VR is the technique that humans can experience a virtual space created by computers as it is real. We can expect the great way of using of them in more scenes by putting high computerization by AIs and VR together.
①Workshop using VR goggles by VR group of Doshisha University
  By experiencing VR workshop and watching displays about a structure and examples of utilization, overseas participants are expected to deepen understanding about the usefulness of VR.
②How VR and AIs can be utilized in terms of cultural preservation and environmental protection
  On the aspect of the environmental protection, we think it is possible to draw the future image predicted by AIs on VR and put up measures. In addition, it is possible to simulate it by analyzing the thing drawn on VR by AI. The use in various scenes is enabled by applying AIs to VR and, VR to AIs. On the aspect of the cultural preservation, we expect to preserve things that may be lost over time, such as ageing of buildings and techniques by using VR.

● "Energy utilization method and creation of industry"
  There are some tasks in sustainable energy development all over the world. For example, with the majority of electricity in Japan generated by thermal power and the recent nuclear accident, the shift to renewable energy is considered necessary. However, Japan is lagging behind other countries in terms of the shift, due to the issues of cost and stable supply. Overseas participants are expected to share information on their country's situation as well as studies on renewable energy. Then, we discuss how to use science-technology for sustainable energy development and its stable supply. We also think new energy utilization method based on the second day's presentation, the utilization method of AI and of VR.
For example…
① Increase energy efficiency
  There are cases where AIs are used for managing energy supply. In this part, participants will learn about energy situations in various countries and discuss the potential use of AIs for stable supply of sustainable energy.
② Solve the issues of energy development
We think that we can solve the issue of energy development to predict the dangerous and bad situation by AI.