1. Date    Thursday, July 12, 2018  00:30p.m.-04:00p.m.
           日時   2018年（平成30年）7月12日（木）12:30〜16:00

2. Place  Sansanmaru(330) Hall, University of Miyazaki
           場所   宮崎大学創立330記念交流会館 コンベンションホール

3. Host organization
   主催団体
   Miyazaki Prefectural Miyazaki-Omiya High School
   宮崎県立宮崎大宮高等学校
   University of Miyazaki Center for International Relations.
   宮崎大学国際連携センター

4. Schedule  12:30〜16:00
   日程
   12:30   Opening Ceremony
   12:45   Poster Sessions by Miyazaki-Omiya High School Students
           Each phase presentation 10 minutes (including question and answer) × 4 times
   15:10   Presentations from University of Miyazaki Students
           through “Tobitate Ryugaku Japan(30 min)
   15:45   Closing Ceremony
### Poster Session timetable

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<th>Times</th>
<th>Phase 1</th>
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※Poster presentations from University of Miyazaki Students

Wataru Fujimaki 藤巻航, Shinya Yoshizaki 吉崎真也, Kodai Miura 三浦広大

### Poster Session Venue map

![Poster Session Venue map](image)

### Presentations from University of Miyazaki Students

Mana Sugita 杉田真奈, Ryoji Kurogi 黒木凌司, Otsuka Hisaki 大塚久喜
<table>
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<td>Confront Upcoming Threat : How to Supply Water in case of Nankai Trough Earthquake</td>
<td>「来たらべき脅威に立ち向かう －南海トラフ地震で水を安定供給するためには－」</td>
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<td>Focus on How Fertilizers Affect on Soil</td>
<td>「肥料が土壌に及ぼす影響」</td>
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<td>Are you happy ? : A Study of Improving the Level of Happiness among High School Students</td>
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<td>Global TAKUAN Project Ⅱ</td>
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<td>Research to put Black Bass on the market</td>
<td>「ブラックバスを市場へ －バス節の秘められた可能性に迫る－」</td>
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<td>Do you eat blue lemon ?</td>
<td>「味覚・色覚・大改革！ －色覚・味覚の相互関係を用いて購入意欲に向かう－」</td>
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<td>Increase concentration by listening to music</td>
<td>「音楽の力で集中力アップ!?」</td>
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<td>This is your Kamairi tea : the way to brew Kamairi tea</td>
<td>「釜炒り茶の嗜好別抽出法 一選ばれたのは釜炒り茶でした－」</td>
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<tr>
<td>How to clean water over the world using AC</td>
<td>「活性炭で世界の水に安心を －硝酸イオン吸着量比較による混合溶液中の活性炭の働き－」</td>
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<td>Evaluation Of Amazake By Various Condition Changes</td>
<td>「甘酒を食卓に 一種々の条件変化による甘酒の評価を探る－」</td>
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<td>Searching for the advantage of Organic Vegetables</td>
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<td>Nigauri for You : How Cycloextrin would affect the bitterness of Bitter Melon</td>
<td>「苦瓜を、君に。 －シクロデキストリンによるゴーヤの苦味減弱効果－」</td>
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<td>What reduce your stress ?</td>
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Confront Upcoming Threat: How to Supply Water in case of Nankai Trough Earthquake

「来たるべき脅威に立ち向かう —南海トラフ地震で水を安定供給するためには—」

Water shortage by earthquake has seriously damaged our lives. The great eastern earthquake is the worst example. Our goal is to prevent water shortage by Nankai Trough earthquake, which will attack Miyazaki Prefecture. Our team simulated which area to supply water first by analyzing the data on the great eastern earthquake and Kumamoto Earthquake and by setting up a formula. In our simulation, we calculated how much water is necessary and how accessible each area is. We thought of each situation based on days after the disaster occurs to get more accurate result.

Focus on How Fertilizers Affect on Soil

「肥料が土壌に及ぼす影響」

Previous research saying that more and more fertilizer are used in the world, the amount of the crop is decreasing. And also, there are some differences about nutrient using each kind of fertilizer. However, there is no certain proof which tell us the reason of these situation. Our study will show you how fertilizer affect on the soil properties and nutrition of crops by some experiments and find the answer of our question. As a result, we found the following three points.

1. When the soil has microbes from the beginning, the condition which added the chemical fertilizer seems to have a higher nutritional value than the organic one.

2. Chemical fertilizer can work on crops quickly than organic fertilizer and organic fertilizer can keep a constant effect from early stage.

3. There are not so much bad influence to the soil which has microbes.

From our study, we can say that a prevailing trend — organic fertilizer is safe and tasty than chemical fertilizer — is wrong because these two fertilizers show different effects in different conditions.
Are you happy? : A Study of Improving the Level of Happiness among High School Students

「Are you happy？高校生の幸福度上昇を目指して」

The purpose of our research is to improve the level of happiness among high school students. Knowing that Japan’s rate of well-being is low compared to other developed countries, we first wanted to raise the happiness level of the high school students close to us.

In this research, we paid attention to how the individual defines happiness for themselves. First, we focused on the second-year students of Ohmiya High School and American high school students, and through a survey we found that the American students reported a higher rate of happiness than the Japanese students.

The overall result showed a big difference between America and Japan, and thus we investigated possible causes, wondering if this drastic disparity was based on any cultural differences. The biggest difference we found was that Japan practices collectivism, while Americans are raised with an individualistic upbringing.

Based on this information, we theorize that in order to raise our level of happiness, it is important to find out what we really want to do and be true to ourselves, even when in a group.

Global TAKUAN Project Ⅱ

We aim to put Takuan which is a traditional food of Japan on the Vietnam’s market. From scientific aspect, we are researching favored smells, and tastes of Vietnamese. From sociological aspect, we are making a package of Takuan. If our research works out, we can spread Miyazaki’s radish around the world.
Put Black Bass on the market

We tried to compare black bass soup with the most popular Japanese soup, dried bonito so that we could find how black bass is excellent as a soup material. In addition, we dried both black bass and bonito in order to increase their useful nutrition such as amino acids, fatty acids, nucleic acids, and related substances. We then asked a professor of the local university to analyze these components and we checked on them.

Do you eat blue lemon?

The correlation between our sense of taste and our perception of color

There is a gap between taste that we imagine from product’s package color and its actual taste. We researched the correlation between our sense of taste and our perception of color. Afterwards, we applied the results to packages and studied whether the color of the packages increased customers’ desire to buy them.
Increase concentration by listening to music
「音楽の力で集中力アップ!?」

Today, many students are suffering from lack of focus. Therefore, we came up with study of the relationship between music and concentration, because it is said that we can focus on something while listening to music. Especially, because ‘key’ has not been researched, we decided to study it. Then, we conducted some experiments, using ‘Bourdon cancellation test.’ The result was that minor key developed concentration the most strongly.

This is your Kamairi tea : A way to brew Kamairi tea
「釜炒り茶の嗜好別抽出法 ～選ばれたのは釜炒り茶でした～」

Miyazaki is the highest producing district of Kamairi tea in Japan. The Kamairi tea made in Miyazaki makes many sales at fairs, and its name and flavor are both respected. However, the market of Kamairi tea is much smaller than that of steamed green tea. Therefore, we are trying to research a way to brew tea which is suitable to people’s likes and dislikes in order to encourage people to drink Kamairi tea. Tea’s flavor is affected by the amount of caffeine and polyphenol it contains as well as the way it is brewed. Therefore, we did a sensory test and analysis of these factors with nine samples which had different temperatures and times of extraction. We also did a street survey and analyzed people’s likes and dislikes about bitterness and aftertaste of tea. From the result of this research, we selected the sample most suited to people’s likes and dislikes. In the future, we want to continue our research by studying how the method by which tea is drawn affects its flavor.
How to clean water over the world using AC
: The characteristic of activated carbon which absorb NO₃⁻

There are many farming regions all over the world, including in Miyazaki prefecture, where we live. When fertilizer and the excrement of domestic animals flow into rivers, they can pollute the water with nitric acid. This may be one of the factors that contributes to many diseases. To solve this problem we performed experiments to determine the effectiveness of using activated carbon to remove nitric acid. First we researched pH dependence of activated carbon using the data of equipotential points, which our seniors researched. As a result of this experiment, we found that activated carbon adsorbs nitrate ion chemically. Second, we researched influence of added ions. From this, we found that the influence of physical adsorption is larger than that of chemical adsorption. And, in the case of weak acid, the higher the electric charge is, the more coexistence ion prevent nitrate ion from adhering to activated carbon. On the other hand, in the case of strong acid, the lower electric charge, the more coexistence ion prevent nitrate ion from adhering.

Evaluation Of Amazake By Various Condition Changes

Amazake is one of the ancient Japanese fermented food made from sake cakes and koji. In order to disseminate amazake, we advanced the research by two methods.

In the first method, a sensory test was conducted to change the temperature and concentration of amazake itself to examine the change in taste, aroma, and aftertaste.

In the second method, we searched for taste and scent preferred by more people based on analysis of the five-taste of amazake by the taste sensor and the questionnaire result. I also have conducted some of these surveys abroad.
Searching for the advantage of Organic Vegetables

Our goal is to reach the advantages of organic vegetables and spread interest in organic vegetables more widely, so we researched this topic. We conducted a survey and an experiment from two perspectives of social science and natural science. Firstly, we conducted a survey on how Japanese and foreign people feel about vegetables. As a result, it becomes clear that both Japanese and non-Japanese people think of nutrition as the most important factor in vegetables. However, unlike Japanese people, 70% of the non-Japanese people we surveyed were afraid of agricultural chemicals. Secondly, we grew and harvested carrots under three conditions and measured amino acid content and balance. As a result, it becomes clear that organic vegetables are superior to inorganic ones in that the composition of amino acid in organic vegetables is more balanced than that in inorganic ones. Also, it becomes obvious that organic vegetables nutrition is more likely to be absorbed because of its balanced consumption. We would like to continue to research the advantages of organic vegetables, focusing on other factors in the future.

Nigauri for You: How Cyclodextrin would affect the bitterness of Bitter Melon

Bitter melons are full of nutrients. Miyazaki has the second largest production of bitter melons in Japan. However, many people dislike them. Most of the Omiya High School students answered that they cannot eat them because of their bitterness. Then, we found Cyclodextrin, and we guessed that it would get rid of the bitterness. We mixed Cyclodextrin into bitter melon juice. We tried the juice again and again, changing the amount of Cyclodextrin, and we studied how it affected the bitterness. From the result of this survey, we found three facts. First, cyclodextrin could remove the bitterness dramatically. Second, 0.8g~0.1g of Cyclodextrin could have a better effect on 50ml of juice. Third, cyclodextrin prevents bitterness from having an effect again.
What reduce your stress?

「ストレスを減らそう —ストレスを和らげるのに効果的な方法は何か—」

We studied the relationship between stress and consumables and aromas. In Japan, there are many people who feel stress, and now our society is being called a “stress society”. So we wanted to find a way to solve this problem with consumables and aromas. We reached a conclusion that aromas may be the most effective.