

# Super Science High School

SSH  
Super Science Highschool

Let's research!



Let's present!



Let's cooperate with students overseas!



We're on Twitter!



## SAINO Global Science and Technology



**SAINO**  
Saijo Agricultural High School

In an international exchange with the USA, Italy and the Philippines



QR code  
To access  
SAINO HP

## Our R&D Mission

# Developing Programs that Cultivate Global Scientists Who Can Solve Agricultural and Food Problems Using Technology

—Deepening, inquiring, minds and reinforcing the ability of sending messages by fusion of agriculture and science—

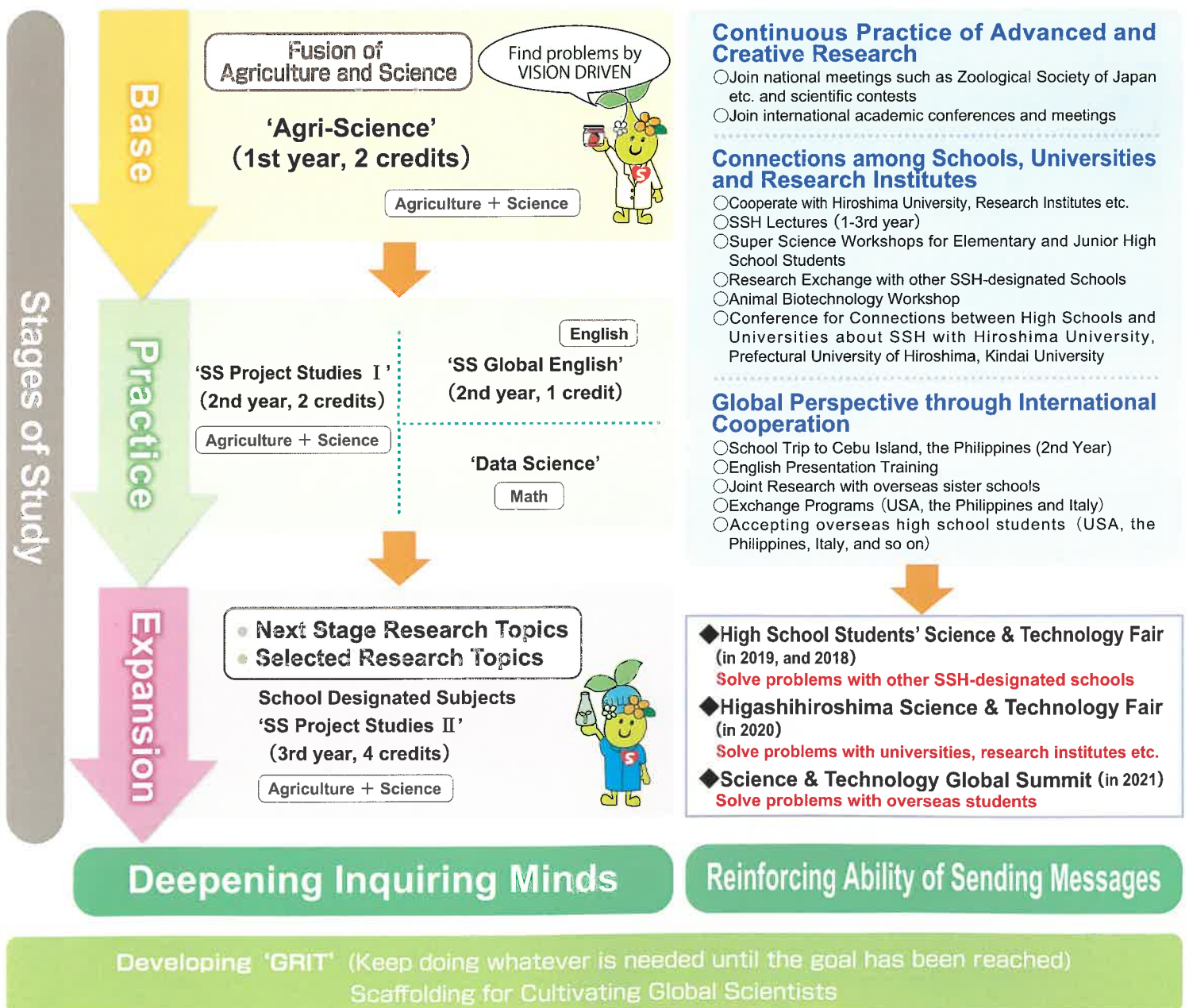
The school has been designated as a 'Super Science High school (SSH)' for eight years since 2012. We yet again are designated as a SSH for another two years until 2022 and start research and development aiming at cultivating future global scientists.

We take advantage of our assets as a school specializing in agriculture. All the students work on research after they set their own research objectives to a high degree. Also, since we are close to Hiroshima University and Hiroshima Central Science Park, our location is very advantageous for research. Utilizing such advantages, we have actively built relationships with many universities, research facilities and companies. In addition, our students take part in exchange programs with many foreign countries such as America, the Philippines and Italy.

We are trying to complete "a new model of SSH" by taking advantage of our assets as a school specializing in agriculture so that the students work on their research with excitement.

## Objective of our R&D

Promote problem-solving abilities in the area of life, food, environment, energy, and more. As well as, cultivate scientists who play an important role in the establishment and development of a sustainable society.



# Continuous Practice of Advanced and Creative Research

①

Having selected Next Stage and Pre-Next Stage research topics, we want to equip students with technological literacy by doing research activities with Hiroshima University, various research facilities and companies, in addition to the school designated subjects, courses, and SSH presentations.

## School Designated Subjects



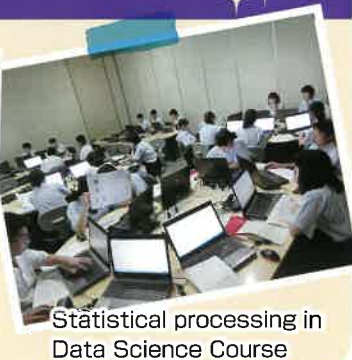
Experiment on germination in Agri-Science



Mini-poster session in Agri-Science



Experiment on quantity of fatty acid in SS Project Studies II



Statistical processing in Data Science Course

SAINO students can learn ...

### Technological Literacy

- Determining Subjects
- Building Hypothesis
- Planning
- Acquiring Skills
- Communication
- Considering Results
- Explaining Logically
- Presenting
- Assessing

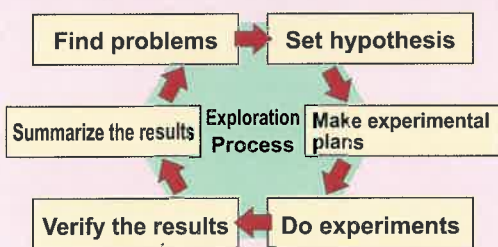


Poster session at SSH Research Results Presentation



Presentation in English in SS Global English class

The Agri-Science characteristics which belong to the Super Science school curriculum.



Data analysis in Data Science Course

Discuss Experiment



Summarize Present



Students develop various abilities related to science and technology literacy during two rounds of exploration process for one topic.

Challenge for

## ASTRO AGRICULTURE

~ From solving problems to proposing issues on Moonshot Thinking ~



What should we do in order to realize self-sufficiency by agriculture during space flight to Mars and staying at the base there?

SAINO is cultivating global scientists who can design the future on Moonshot Thinking (innovative vision counted backward from the future). All of the SAINO departments are setting research topics on astro-agriculture.

## Connections among Schools, Universities, and Research Institutes

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We establish the systems for human resource development through elementary, junior, and senior high schools, universities, and research institutes mainly in Higashihiroshima city, in order to cultivate scientists who can build a sustainable society.

### Conference for connections between high schools and universities about SSH



Hold conferences with Hiroshima University. Get advice on their research and discuss what to learn at SSH.

▲Advised on their research by professors at Hiroshima University

### Conference for connections among other SSH-designated schools and agricultural high schools



Hold research exchanges with SSH-designated schools, such as Hiroshima University High School. Invite other SSHs and agricultural high schools in Hiroshima, and hold 'Animal Biotechnology Workshop' at the zoological building in SAINO.

▲Explained about OPU (Oocyte Pick-Up)

### High School Students' Science & Technology Fair



◀Learning about rice that is resistant to salt damage at Science Workshop



As part of the SSH initiatives, SAINO held the research presentation and workshop in 2019, inviting SSHs in Chugoku District and high school students in Hiroshima. The students experienced the latest science research which was being explored in Hiroshima University. The title of the workshop was "Let's approach the latest research to solve food problem!"

With the theme of Sustainable Development Goals (SDGs), we collaborated with students from other schools and tried to find out how to make use of technology in order to contribute to Zero Hunger by FAO (United Nations Food and Agriculture Organization). Then, we had a poster session on our research from SDGs.

### Cooperation about Selected & Next Stage research topics



▲Explanation about analytical equipment at Faculty of Engineering, Kindai University

Our students actively interact. For example, they get training for experiments and practicing for selected research topics by visiting university laboratories and professors' or graduate students' visiting SAINO. They also visit research institutes and companies. Then gain advice about professional knowledge and skills.

### Super Science Workshops for Elementary and Junior High School Students



Held once a year, cosponsored by the Board of Education of Higashihiroshima city, elementary and junior high school students enjoy science and are motivated.

▲Experiment on DNA extraction

### SSH Lectures



At SAINO, we invite lecturers who work actively in various fields three times a year to improve students' interests towards science.

## Exploitation of Educational Program to Cultivate International Minds by International Cooperation

International Exchange with Universities and High Schools in the USA, Italy, and the Philippines

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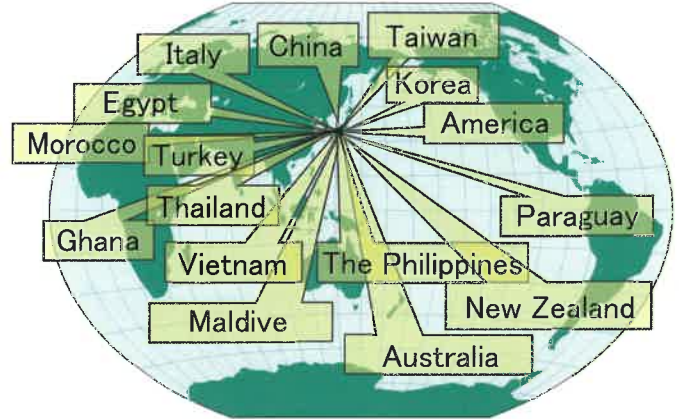
We cultivate students' international minds by exchange programs with Illinois State University (ISU), Chicago High School for Agricultural Sciences (CHSAS), University of Bologna (U of B), Istituto Lazzaro Spallanzani (ILS), University of the Philippines Rural High School (UPRHS). As well as, English Presentation Workshop, Scientific English Presentation Proficiency Test, and Scientific English Vocabulary Test.

## International Exchange

### English Presentation Workshop



Applicants receive guidance from English teachers in advance. Then, they improve their presentation skills, gaining advice from a professor and graduate students at Hiroshima University.



### Acceptance of Sister Schools



#### Istituto Lazzaro Spallanzani (ILS)

5 students and 3 teachers from ILS visited SAINO from May 23rd to June 2nd in 2019. They discussed our joint research, joined classes, and club activities.



#### Chongqing, China

9 students and a teacher from Chongqing visited SAINO on November 18th in 2019. They had a group discussion on the world food problem.

#### Chicago High School for Agricultural Sciences (CHSAS)

6 students and 2 teachers from CHSAS visited SAINO from August 28th to September 7th in 2018. They engaged in research and cultural exchange, joined classes, and club activities.



#### University of the Philippines Rural High School (UPRHS)

9 students and 3 teachers from UPRHS visited SAINO from December 12th to 20th in 2019. They discussed our joint research, joined classes, and club activities. They also tried field work at Hiroshima University and a nearby hospital.



### Overseas Training



6 students and 2 teachers visited CHSAS, ISU and The Plant from November 17th to 24th in 2019. We also experienced home stay.



#### The 7th Exchange Program in USA

#### The 3rd Exchange Program in the Philippines

6 students and 2 teachers visited ILS and U of B from October 21st to November 3rd in 2018. We also experienced home stay.

#### The 4th Exchange Program in Italy

6 students and 2 teachers visited UPRHS, Crop Life Philippines, and International Rice Research Institute (IRRI) from November 14th to 22nd in 2018. We experienced home stay as well.



# Messages from SAINO Students



Lecture on Aquaponics



Workshop with students from Chongqing



Soba making experience



Arriving at Chicago High School for Agricultural Sciences



Cultural Exchange with host family



### From the reports of SAINO students who visited sister schools

USA :  
Chicago High School for Agricultural Sciences

- I had never heard of the word "aquaponics" before I visited the Plant. The staff there taught it to us showing the real facility. Then I understood aquaponics is exactly recycling agriculture.
- I made a presentation on our research in English. I got confident when my host sister told me that my presentation in English was very good.
- The time I spent with my host family was full of laughter. We got closer to each other. I will learn English more to be able to communicate with them a lot.
- I joined classes of civics, history and math. I felt that the way of learning in class was different from Japan. I thought the students in CHSAS were researching a very valuable topic because it could contribute to the world environment.



### From the questionnaires of SAINO students who hosted sister school students

Italy : Istituto Lazzaro Spallanzani  
The Philippines : University of the Philippines Rural High School

- I feel closer to Italy and want to know more about it. I can't express how I enjoyed staying with them. Being a host family is really a wonderful experience.
- I think that my competence in languages has been raised. They taught me Italian language and I was able to make friends with them.
- I feel I have acquired the ability to act thinking about the other person, considering the difference of each culture.



Wadaiko (Japanese drums) performance at welcome ceremony for a sister school



Origami experience with students from overseas



Poster presentation at the school festival



### Activities of SSH Steering Committee

They are in charge of planning and managing the SSH events, and taking care of sister school students.

Scan to access the page of SSH Steering Committee ▶



## With the Aim of Enrolling in Science & Technology Related Universities

The Number of alumni who entered national and public universities (past eight years since SAINO was designated as a SSH)

Obihiro University of Agriculture & Veterinary Medicine (8) , Utsunomiya University (1) , Niigata University (2), Nagaoka University of Technology (1) , Gifu University (3) , Mie University (2), Shiga University (1), Tottori University (4), Shimane University (22), Okayama University (4), Hiroshima University (9), Yamaguchi University (8), Tokushima University (1), Kagawa University (2), Ehime University (7), Kochi University (4), Saga University (10) , Nagasaki University (1) , Miyazaki University (6) , Kagoshima University (10) , Ryukyu University (15) , Tottori University of Environmental Studies (6), The University of Shimane (2), Prefectural University of Hiroshima (23), Onomichi City University (11), Yamaguchi Prefectural University (1), National Fisheries University (1)



Scan to access SAINO HP to check Carrier Guidance Page



SAINO Mascot :  
Agri-chan

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Cover Page Photos

- Agri-Science
- Cultural Exchange with UPRHS students in 2019
- SSH Research Results Presentation in 2020
- High School Students' Science & Technology Fair in 2019

