

PLANE³T Project Student Programs

Purposes of the PLANE³T project are to conduct research on development and establishment of appropriate technologies towards sustainable and recycling-oriented societies, and to conduct PR activities of such technologies in various sectors in Ethiopian societies such as Environment, Health, Economics, and Education.

The PLANE³T Student Program is a student-participatory program where students initiatively learn about situations and problems in Ethiopia and prepare feasible proposals as solution for such problems. As a result of this Program, students are expected to present their learning and proposals at [PLANE³T Student Program Research Meeting] (scheduled in December).

Framework:

The program will be held in student-led discussion style. The program members will be divided into small groups (5-6 students), and each group will present their research and proposals at monthly meetings. Faculty members would participate in the monthly meetings as advisers.

Theme 1: Suitable waste treatment for Ethiopia

Program 1: Investigation of environmental pollution, current waste treatment in Ethiopia, and suggestion of appropriate technology

- Clarifying the required technologies in Ethiopia by investigating the current issues of waste treatment and environmental pollution. To solve these problems, suggestions of inducing appropriate technology, which is the low cost, easy to use, possible to repair in local, will be conducted.
- **Advisor:** Sato, Akizuki, Kishi (Science and Engineering)
- **Activity period (plan):** 2018/7 - 2019/3
- **Frist meeting:** 2018/7/18 (Wed.) 16 : 40 ~

@Room E204, Science and Engineering Tower

Theme 2: Development of biomass and valuable substance production technologies using phytoplankton

Program 2-1: Application of Spirulina's Biological Characterization to Industry

- Spirulina is used for health foods and natural colorants etc. In recent years, new applications are also being developed (e.g. Spirulina's special helical structure can be applied to create ultrafine metal springs as a template). The aim of this program is an investigation of the industrial applicability of spirulina by learning the biological characterization.
- **Advisor:** Ida, Kinoshita, Ikeguchi, Kurosawa, Sato (Science and Technology)
- **Activity period (plan):** 2018/7 ~ 2019/3

Program2-2: Evaluation of nutritive value of microalgae and proposal of usage appropriate for Ethiopia

- Highly nutritious spirulina is effective to improve child malnutrition. However, Ethiopian are relatively conservative in their diet habits and do not like the new food. We will learn the constituents and intake effect of Spirulina and local culture and proposal of spirulina usage appropriate for Ethiopia.
- **Advisor:** Sasaki (Nursing), Kishi, Sato (Science and Technology)
- **Activity period(plan):** 2018/7 ~ 2019/3
- **Frist meeting:** 2018/7/18 (Wed.) 16 : 40 ~
@Room E204, Science and Engineering Tower
(*Held jointly with Theme 1 at first)

Theme3: Proposal and construction of global value chains for the commercialization of plankton-based products

Program 3 - 1: Research on Ethiopian economic, health, social structure, dietary culture and nutritional status

- Although it is possible to obtain various valuable materials from the culture of microalgae of theme 1 and 2, the purpose of this project is to consider food or nutritional supplements as valuable materials obtained from microalgae, and to improve the health and nutrition condition of Ethiopian people. Therefore, it is necessary to recognize the current situation and the problem of local economy and society correctly. This team will work on a basic research on ①the current situation and problems of the economic society and ②the food culture and nutritional condition of Ethiopia
- **Advisors:** Shimura and Marutschke (Business)

Program 3 - 2: Product development using valuable substances of microalgae and construction of BOP business model

- In order to contribute to easing and solving the economic and health problems in Ethiopia, we will work on : ① the development of local foods or new products using microalgae products, and ② the construction of BOP business model which envisages Ethiopian local people as the main business beneficiary and partner in production, distribution and consumption by creating the international value chain.
- **Advisors:** Takagi and Nishiura (Economics)
- **Activity period (plan):** 2018/7 ~ 2019/3
- **Frist meeting:** 2018/7/11 (Wed.) 16 : 40 ~ @Room AC534, Global Square

Theme 4. Environmental and economic education for local young engineers, researchers, and entrepreneurs

To promote sustainable society and circular economy, it is important for local residents, engineers, researchers, and entrepreneurs to participate in the activities. In this theme, we will work on the development of human resources who will contribute to establish and promote environment-friendly business and actions by conducting environmental and economic education. In particular, the workshops will be organized in Ethiopia to raise the environmental awareness, and this workshop will include a “Student Session” to be planned and organized by the Soka University students. In addition, (i) unique programs or/and best practices of “environmental education” in Japan, and (ii) the “environmental club activities” will be shared at the workshops. The workshops will be planned and co-organized with the international organizations such as the United Nations and NGOs. Travel expenses of the student representatives who organize the student session will be partially supported by this Project. The first workshop will be organized in 2019.

Program 4 - 1: Planning and Implementation of the “Student Session” at the Workshops

- Overall **planning and implementation of “student session” at the workshops** will be based on the needs and requests by the Ethiopian counterpart universities. Students from the counterpart universities will be invited to “the student session.” Therefore, we expect the “student session” to be an incentive and learning opportunity for both Soka and Ethiopian students to think about solutions for the environmental problems and nature conservation together, and also to take actions to achieve sustainable development goals (SDGs). Furthermore, we plan to send student representatives (about 2 people) to Ethiopia to organize the session.

Program 4 – 2: Surveys on students’ club activities related to environmental education and conservation

- This program (4-2) will conduct surveys on students’ club activities contributing to the achievement of SDGs, and environmental protection at universities and schools in Japan. Students will conduct surveys, analyze and identify unique club activities or/and best practices of such activities in Japan. In addition, students will propose some of the potential activities to the Ethiopian counterpart universities. Students can include their own activities related to the promotion of SDGs and environmental protection at Soka University if they are relevant. Furthermore, students are encouraged to conduct the surveys on such club activities at universities in Ethiopia as well.

Program 4 -3 : Case studies of Environmental Education in Japan

- In Japan, various kinds of **environmental education** have been implemented by using different opportunities by the Ministry of Education, Culture, Sports, Science and Technology, local governments, NGOs and NPOs. In the meantime, “**humanistic education**” practiced at Soka University teaches coexistence between nature and humans, nurturing minds to treasure all living things, and philosophy of dignity of life, and also aims to train the students to become global citizens. In Ethiopia, although environmental education is conducted, it is said that there is room for further improvement in the contents, and Ethiopian professionals are keen to learn about the experiences in Japan. Based on this background, the Program (4-3) will **study the various cases of environmental education in Japan, and identify some unique or/and effective environmental education classes** that could be proposed to the Ethiopian counterpart universities. Student representatives from Program 4-2, and 4-3 may be sent to Ethiopia by this Project to assist the workshops, and also to attend them.
- **Advisors** : Suzuki (Education), Kuwahara (Education), Kakegawa (Economics)
- **Activity period (plan)**: 2018/7 ~ 2019/12
1st workshop in Ethiopia: 2019/10
Final presentation (at Soka university): 2019/12
2nd workshop in Ethiopia : 2020/10 (Recruit members in 2019)
- **First meeting**: 2018/7/11 (Wed.) 16 : 40 ~ @Room AE851, Global Square

※For the students who were absent on the Campus Orientation Meeting on 20th and/or would like to participate:

[Application deadline] ~ 2018/6/29

[How to Apply?] Send an E-mail to sugano@soka.ac.jp, with the following information; **Your name, your major & grade, student number and programs which you are interested in.**