



Sophia School Corporation SDGs & Sustainability Report 2023-2024 -English edition-

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SOPHIA Fund for the Future Support for SDGs & sustainability promotion

Since its foundation, Sophia University has been committed to promoting sustainability based on the Catholic spirit of "For Others, With Others," which indeed coincides with the philosophy of "leaving no one behind," as stipulated in the SDGs.

The funds raised during this campaign, targeted primarily at promoting sustainability and achieving the SDGs as well as at supporting ecology, people with a disability, LGBTQ+ and gender equality, human rights, health (physical and mental), disaster preparedness, and the like, will be spent on a range of on- and off-campus awareness raising activities, supporting the implementation of such projects, and revamping on-campus facilities with universal design.

https://giving-sophia.jp/donate_en/support-for-sdgs-sustainability-promotion/



This booklet uses recycled paper and vegetable ink.



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President's Message

Yoshiaki Terumichi,
President,
Sophia University



The concept of sustainability, amid major societal transformations, is bound to undergo changes in its meaning, such as urgency, positioning, and scope, even if its core remains unchanged. Especially in recent times, when considering the sustainability of society, it has become important to view it not only as the sustainability of each component of society but also as the sustainability of a broader system that takes into account the connections, interactions, interference, and cooperation between those components.

As a higher education institution, a university is both a place to study sustainability and a place to practice and implement it. This practice includes providing opportunities for the participation of its members (students, faculty, and staff). Although a university is a small society, it holds great significance to face global issues on a campus where members from nearly 100 countries gather. Who are we engaging with when discussing sustainability? At Sophia University, that direction is clear.

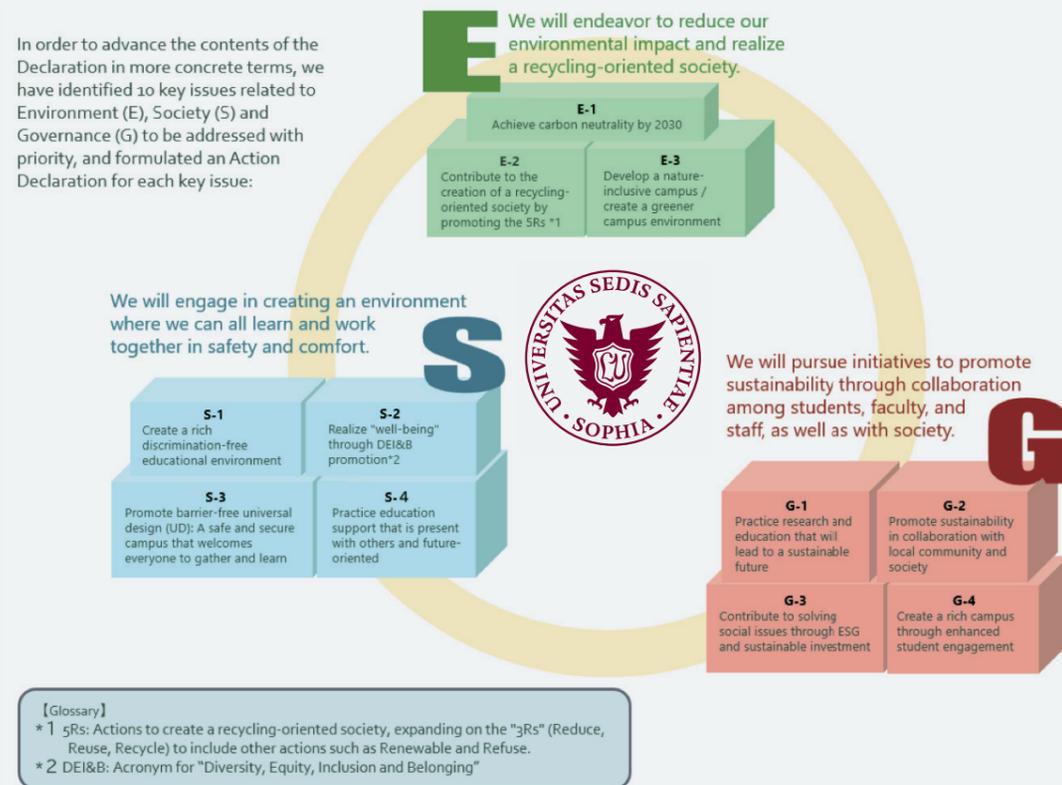
On the other hand, many of the research projects at Sophia University aimed at societal implementation are also designed with sustainability in mind. On our campus, it is possible to adopt a broad, cross-disciplinary view of sustainability. While solving technical challenges and reforming social systems are certainly important areas of research, ultimately, we must achieve the realization of a sustainable, high-quality society. This is particularly true when considering the societal meaning for vulnerable groups and communities.

In this sense, research, education, and social contributions related to sustainability are nothing less than the embodiment of our educational spirit, "For Others, With Others." On this campus, members from diverse backgrounds and fields learn, explore, and produce results based on their individual concerns, which are then fed back into education. Moreover, the environment we create, where interdisciplinary information exchange is continually taking place, provides the optimal ground for innovative and creative approaches to solving sustainability challenges.

I invite you to view this report with the perspective outlined above, and to evaluate whether the initiatives at Sophia University reflect our unique approach, and whether these initiatives and their outcomes are making an impact on society and leading us in the right direction. I sincerely hope that our efforts are contributing, and will continue to contribute, to the sustainability of society. At the same time, I look forward to the development of cooperation and collaboration with many individuals and organizations.

Sophia School Corporation Declaration on Promoting Sustainability

Sophia School Corporation has been committed to human education based on “Christian Humanism”, where each student, faculty and staff mutually recognizes the dignity of the human personality and basic human rights, and aims to be a person who serves the development of the world with responsible behavior and a humble spirit. Never taking a bystander attitude, each school is committed to nurturing individuals who strive to solve global-scale problems through dialogue. When Pope Francis visited Sophia University in 2019, He referred to his 2015 encyclical, 'Laudato Si', and left a message stating, “This university should be a center not only of intellectual formation, but also a place where a better society and a more hope-filled future can take shape” and that “Love for nature should here find expression in a sapient and foresighted concern for the protection of the earth, our common home.” Committed to the educational spirit of “ For Others, With Others” and the seven goals presented in Laudato Si', Sophia School Corporation will contribute to solving social issues, creating value, and protecting and preserving the environment through its research and education activities.



The Role of “Laudato Si’ Universities”

Sophia University has signed its commitment to Pope Francis’ “7-Year Journey Towards Integral Ecology”. In order to achieve the goals of Laudato Si’, members of signatory universities are expected to learn, practice, and share, with the broad participation of students, faculty, staff, and all relevant stakeholders.

Laudato Si’ Goals – LSGs

1. Response to the Cry of the Earth
2. Response to the Cry of the Poor
3. Ecological Economics
4. Adoption of Sustainable Lifestyles
5. Ecological Education
6. Ecological Spirituality
7. Community Resilience and Empowerment

SACRU and MIRAI

~Initiatives Through International Collaborative Research Networks~

SACRU (The Strategic Alliance of Catholic Research Universities)

SACRU (The Strategic Alliance of Catholic Research Universities) is a global network comprising eight Catholic research universities around the world. Rooted in Catholic values, it focuses on excellent research and education, and works on addressing global challenges. Sophia University is the only university from Asia participating in this network. In July 2023, the colloquium “The Future of Catholic Universities in the AI Age” was held at Università Cattolica del Sacro Cuore, where Professor Gonçalves from the Faculty of Science and Technology at Sophia University participated. Alongside speakers from other SACRU member universities, he discussed topics such as “Education and Research: AI” and “Universities in Society.” In July 2024, SACRU hosted its first-ever summer school, titled “A New World Order: The Way Ahead between Democracy and Authoritarian Challenges,” which was held at Universidade Católica Portuguesa in Portugal. Professor Tetsuo Morishita, Vice President for Globalization Promotion at Sophia University, gave a lecture on the theme of AI and the rule of law, discussing how AI should be handled to foster democracy.



Participating Universities

Australian Catholic University	Australia
Boston College	United States
Pontificia Universidad Católica de Chile	Chile
Pontificia Universidade Católica do Rio de Janeiro	Brazil
Sophia University	Japan
Universidade Católica Portuguesa	Portugal
Università Cattolica del Sacro Cuore	Italy
Universitat Ramon Llull	Spain

<https://www.sacru-alliance.net/>

MIRAI Third Phase (2024-2026)

MIRAI, an international collaborative research project, involves 7 Japanese and 10 Swedish universities. The main objective of the project is to establish a long-term research collaboration between Japan and Sweden as key countries driving large-scale research conducted worldwide.

In autumn 2023, the final year of MIRAI 2.0, the MIRAI 2.0 Research & Innovation Week 2023 was held in person at Umeå University. Faculty and students from Sophia University presented their research in a Parallel Workshop hosted by each Thematic Expert Group and a poster session during the overall program at this event.

In the third phase of MIRAI (2024-2026), we will embark on a bold mission of working together with a focus on global issues. This aims to further strengthen Sweden-Japan’s bilateral partnership and collaborate mutually to address global challenges that necessitate international cooperation. We will engage with academia, industry, and partners to promote the Global Challenge

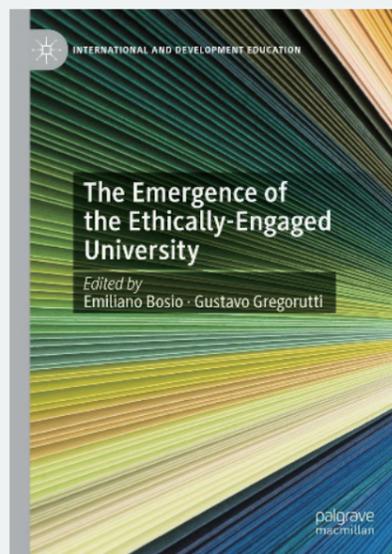


Team's activities, resolving four key issues. This will foster long-term collaborative research, exchange doctoral students and young researchers, and promote innovation and entrepreneurship in education and research.

<https://www.mirai.nu/>

SACRU Publication: *The Emergence of the Ethically-Engaged University*

This article introduces an internationally co-authored chapter by SACRU scholars. It was published in the edited volume "The Emergence of the Ethically-Engaged University" (Springer-Palgrave MacMillan, 2023). The Emergence of the Ethically-Engaged University, edited by Emiliano Bosio and Gustavo Gregorutti, was published by Springer – Palgrave MacMillan in October 2023. It examines "the role of the modern university beyond a market-oriented, passive, and de-solidarized practices towards a more ethically engaged paradigm based on principles of mutuality, reciprocity and social responsibility" (book cover). This twelve-chapter book, authored by scholars from the Global South and North, is divided into three main sections, with introductory and concluding chapters by the editors. The section titles are:



- I. Critical Moral Consciousness, Student Relationships, Civic Dialogue, Environmental Sustainability, and Community Engagement in the Ethically Engaged University
- II. Ubuntu, Civic Responsibilities, and the Potential of the 'Metaverse' for Transforming the Digital Divide in the Ethically Engaged University
- III. Engagement and Social Transformation in the Ethically Engaged University

Within the first section is a chapter on "Catholic Universities' Ethical Engagement through Environmental Sustainability Education" (Manzon et al. 2023). This internationally co-authored paper brought together perspectives from six members of SACRU Working Group 2 which focuses on the research theme 'Catholic Identity and Laudato Si': The Common Home and Social Justice'. They were Paolo Gomarasca and Roberto Maier (Università Cattolica del Sacro Cuore), Ignasi Boada and Alba Sabaté Gauxachs (Ramon Llull University), Lilian Ferrer (Pontificia Universidad Católica de Chile), and Maria Manzon and Bandera Lihoma (Sophia University).

Below is an abstract of the paper:

This chapter aims to contribute to the ongoing academic debate on the issue of sustainability in a higher education context by focusing on the role of Catholic universities around the world from an ethical perspective of the two-fold pedagogical style typical of Catholic higher education. The first "fold" is critical dissidence that defies what Freire called "the scourge of neoliberalism" and its cynical fatalism (1988, p. 22); the second is creative counter-imagination that is underpinned by the Encyclical Letter Laudato Si' (LS) and moves decidedly towards integral and sustainable development. To clarify the actions taken by Catholic universities and their approach to achieving sustainable futures, the chapter is organized as follows: The first section briefly presents the framework of international agreements and conventions that have been signed and effected to help produce education systems that respond ethically to the sustainability of the environment in which people live. Next, we examine the ethical relevance of religion in the discussion of environmental sustainability. The final section illustrates the impact of the Encyclical Letter Laudato Si' and its ethical principles in provoking a worldwide debate about the ecological question, especially in upholding the commitment and engagement of Catholic universities with the pressing environmental challenges of our time. Finally, the Conclusion addresses the

suggestion that, in accordance with their ethical missions and identities, Catholic universities should see themselves as particularly well-positioned and equipped to lead the world toward a more just future for all. Catholic universities can become models of counter-conduct and critical nonconformity to the disproportionate anthropization and exploitation of our planet, which must be urgently stopped.

The book launched on March 5, 2024 (video link). From SACRU, Lilian Ferrer (Vice President of Pontificia Universidad Católica de Chile and Chairperson of SACRU Working Group 2) and Maria Manzon (Sophia University) discussed their chapter.

Video of presentation on March 5, 2024 <https://www.youtube.com/watch?v=P6ts4bxbiQ8>

Reference

Manzon, M., Lihoma, B., Gomarasca, P., Maier, R., Boada, I., Sabaté, A., & Ferrer, L. (2023). Catholic Universities' Ethical Engagement Through Environmental Sustainability Education. In: Bosio, E., Gregorutti, G. (eds.), The Emergence of the Ethically-Engaged University. International and Development Education. Palgrave Macmillan, Cham.

https://doi.org/10.1007/978-3-031-40312-5_4

Sophia University × United Nations

Sophia University United Nations Weeks

Sophia University UN Weeks, started in 2014 based on the idea “to consider the world and our future through the work of the UN,” is now approaching its 20th anniversary. We plan many events both in person and online in a HyFlex format in order to reach out to a wider audience.

We will welcome a diverse group of internationally renowned guests to cover a broad range of topics, including AI, humanitarian aid, education, as well as the environment. High school / college students as well as working adults are welcome to join anytime that works the best.

<https://www.sophia.ac.jp/eng/aboutsophia/global/weeks/unweeks/>



Sophia University United Nations Weeks October 2023 (October 7–24, 2023)

The 20th edition of the “Sophia University United Nations Weeks October, 2023” was held from October 7 to 24, 2023, with the theme “Reflecting on the World and Our Future through the Activities of the United Nations.” A post-event program was held on November 11, featuring a variety of eight diverse programs.

- Symposium “The Current Situation in Gaza from the Perspective of Young Palestinian Refugees – 70th Anniversary of Japan-UNRWA” October 7
- Lecture “Special Lecture by Professor Chilizi Malwara, President of the United Nations University (UN Under-Secretary-General)” October 10
- Symposium “Complex Knowledge in Science and Technology for the World” October 16
- Lecture and Workshop “International Organizations and International Cooperation Careers Workshop” October 20
- Symposium “New Challenges in Education Regarding Fairness and Inclusivity” October 21
- Symposium “Towards Sustainable Food Systems: How Can We Transform Them?” October 23
- Symposium “The Role of the United Nations in Timor-Leste” October 24
- Post-Event Program and Symposium “Where is Japan’s Development Assistance Heading? – Following the Revision of the Development Cooperation Charter” November 11



Sophia University United Nations Weeks October 2023 Report

<https://www.sophia.ac.jp/jpn/aboutsophia/global/weeks/unweeks/unweeks-202310/>

Sophia University United Nations Weeks June 2024 (June 7–24, 2024)

The 21st edition of the “Sophia University United Nations Weeks June, 2024” was held from June 7 to 24, 2024, with the theme “Reflecting on the World and Our Future through the Activities of the United Nations.” A total of seven diverse programs were held.

- Symposium “Visas for Life, the Spirit of the United Nations, and the Netherlands’ Commitment” Photo Exhibition “Curacao Visa: The Origin of the ‘Visas for Life’ by Zwartendijk, Dutch Consul, and Chiune Sugihara” June 7
- Lecture “Considering Middle East Peace” June 10
- Symposium “JICA’s Challenge in Peacebuilding – Including Collaboration with International Organizations” June 11
- Lecture and Workshop “International Organizations and International Cooperation Careers Workshop” June 13
- Symposium “Climate Change: How to Address a Global Challenge” June 18
- Symposium “Annual Meeting Session of the United Nations Academic Impact Council (ACUNS)” June 22



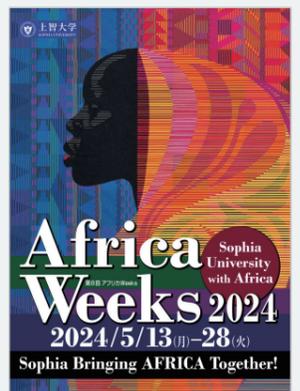
Sophia University United Nations Weeks June 2024 Report

<https://www.sophia.ac.jp/jpn/aboutsophia/global/weeks/unweeks/unweeks-202406/>

Sophia University Africa Weeks 2024 (May13–28, 2024)

As part of our efforts to deepen understanding of and strengthen collaboration with the African region, Sophia University held the Sophia University Africa Week 2024 from May 13th to 28th.

1. 15 May
Symposium “Working in Francophone Africa”
2. 19 May
Lecture “Family ties / Alliance by «plaisanterie» : origin and history (Sanangouya)”
“Parentés / Alliances à plaisanterie : origine et histoire (le Sanangouya)”
3. 21 May
Lecture “Oral literature and modernity in Africa”
“Littérature orale et modernité en Afrique”
4. 23 May
Seminar “African Studies in Sophia University”
5. 24 May
Lecture “Africa Day Commemorative Lecture”
6. 27 May
Symposium “AFRI CONVERSE 2024 in Sophia”
7. 28 May
Lecture “Tanzania, A New Investment Frontier for Africa, and International Partnerships”



<https://www.sophia.ac.jp/eng/article/news/announcement/afweeks2024en/>

The Sophia University UNESCO Chair on "Education for Human Dignity, Peace, and Sustainability"

United Nations Global Compact

The United Nations Global Compact (hereafter UNGC) was announced by then UN Secretary-General Kofi Annan in an address to the World Economic Forum in 1999, and was officially launched at UN Headquarters in New York City on 26 July 2000. It is an international framework under which business sectors and non-business organizations are expected to take responsible and creative leads for the society toward the sustainable development.



At present more than 13,800 entities in 161 countries and regions have signed up for UNGC and conducting the Ten Principles in the areas of human rights, labor, the environment and anti-corruption, and striving after the SDGs.

Sophia University became a signatory member of UNGC in May 2015 and also affiliated with the Global Compact Network Japan (GCNJ), the local area network. Since then Sophia has been jointly hosting a series of symposiums with GCNJ during the UN Weeks in collaboration with the member companies and UN organizations.

<https://www.unglobalcompact.org/>

<https://unglobalcompact.org/participation/report/cop/detail/480857>

<http://www.ungcnj.org/>

Participation in SDG-UP; SDG Universities Platform

United Nations University Institute for the Advanced Studies of Sustainability (UNU-IAS) has established SDG-UP; SDG Universities Platform in 2020 as a place where Japanese universities that are willing to actively work toward achieving the SDGs can collaborate. Sophia University is a member.

At the public symposium held on March 29, 2024, Professor Miki Sugimura of our university took the stage.

<https://ias.unu.edu/jp/sdg-up>



UNU-IAS Launches Fast-Track Scheme for Second Master's for Sophia University Master's degree holders

Sophia University and the United Nations University Institute of Advanced Studies of Sustainability (UNU-IAS) have been engaged in academic collaboration since a 2015 agreement on an Academic Cooperation and Educational Exchange Program.

This time, UNU-IAS has announced the launch of a new fast-track scheme for its Master's degree program, which is available to recent Master's graduates of Sophia University. For more information, please refer to the official announcement by UNU-IAS.

<https://unu.edu/ias/announcement/unu-ias-launches-fast-track-scheme-second-masters>

Overview

The UNESCO Chair is a project in which higher education institutions work with UNESCO to address the increasingly complex issues of contemporary society. Sophia University's Chair was established in February 2024 based on comparative international education research on Education for Sustainable Development (ESD). The Chair works with three international organizations (United Nations University Institute for the Advanced Studies of Sustainability, Asia Pacific Center for International Understanding and Education, and the Asia-Europe Foundation) and five universities (Boston College, Universidad Javeriana Bogota, Ateneo de Manila University, International Islamic University Malaysia, and Egypt-Japan University of Science and Technology). This project focuses on comparative international education activities centered around the UNESCO recommendation "Peace, Human Rights, and Sustainability," which was revised in 2023. In particular, it implements initiatives to achieve inclusive and sustainable positive peace, with a focus on Education for Sustainable Development (ESD) and Global Citizenship Education (GCED), especially for North-South and South-South cooperation.



<https://sophia-unescochair.jp/>

Cooperation in the Asia-Pacific Regional Policy Dialogue Meeting on the 1974 Revised Recommendation of UNESCO

The Sophia University UNESCO Chair supported and organized sessions as a partner institution at the "Asia-Pacific Regional Policy Dialogue Meeting on the 1974 Revised Recommendation of UNESCO," held in Bangkok, Thailand, from June 5 to 7.

This meeting, co-hosted by the UNESCO Bangkok Regional Office and the Asia-Pacific Centre of Education for International Understanding (APCEIU), with the cooperation of the Thai government, aimed to create a roadmap for the implementation of the "1974 Revised Recommendation," which was approved in December 2023. Representatives from member countries and relevant stakeholders in the Asia-Pacific region gathered for this purpose.

At the panel organized by Sophia University, practitioners and researchers from East Timor, Niue, the Philippines, and Thailand were invited to discuss the role of teachers and curriculum development. The panel examined practical reports and policies related to Education for Sustainable Development (ESD) and Global Citizenship Education (GCED).



Initiatives for Responsible Investment (ESG Investment)

Participation in the Higher Education Sustainability Initiative (HESI), a side event of the United Nations High-Level Political Forum

Professor Miki Sugimura (Department of Education, Faculty of Human Sciences), chair of the Sophia University UNESCO Chair, participated in a discussion of the Higher Education Sustainability Initiative (HESI) on the role of higher education institutions in achieving the SDGs, held as a side event at the United Nations High-Level Political Forum at the United Nations Headquarters in New York on July 15, 2024.



Following the election of the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) as co-chair of HESI this year, the panel discussed the state of higher education, which is currently facing a need for change. As examples of initiatives in Japan, presentations were given on the importance of the development of Education for Sustainable Development (ESD) in higher education and international collaboration, based on the examples of the SDG-Universities Platform (SDG-UP), an initiative by Japanese universities, of which Sophia University is a member, and the Promotion of Sustainability in Postgraduate Education and Research (ProSPER.Net), an initiative by UNU-IAS.



<https://ias.unu.edu/jp/sdg-up>
<https://prospernet.ias.unu.edu/>

UNESCO Chair Panel at the 18th World Congress of Comparative Education Societies (WCCES)

At the 18th World Congress of Comparative Education Societies (WCCES), held at Cornell University in the United States from July 22 to 26, a session on educational research titled “Fostering Knowledge-Driven Transformation in Times of Uncertainty: Collaborative Research in Education” was organized with participants from UNESCO Headquarters and other UNESCO Chairs from various countries.



The session was chaired by Dr. Sobhi Tahi, Director at UNESCO Headquarters, and featured presentations by Dr. Elena Toukan from UNESCO, Professor Charles Hopkins and Secretary-General Katrin Kohl from the UNESCO Chair at York University in Canada, Professor Aaron Benavot from the State University of New York at Albany, and Professor Miki Sugimura from Sophia University. Professor Sylvia van de Bunt from Vrije Universiteit Amsterdam served as the designated discussant online. Dr. Keith Holmes from UNESCO also participated in the session. The event attracted over 60 participants and sparked enthusiastic discussions.

The UNESCO Partners Forum

The UNESCO Partners Forum, to discuss ways of cooperation between UNESCO and various partners, was held at the African Union Headquarters (Addis Ababa) from 30 September to 2 October 2024. From Sophia University Professor Miki Sugimura (Department of Education, Faculty of Human Sciences) and Eri Yamazaki University Education Administrator (Office of Sophia Future Design Platform) attended. This is the first time our university participates as UNESCO Chair.



In line with Sophia University’s educational spirit and founding principles, such as “For Others With Others” and “Sophia – Bringing the World Together,” we are engaged in responsible investment, considering (E) environmental, (S) social, and (G) governance issues. These principles underpin all of Sophia University’s activities, extending beyond education and academic research. Based on the United Nations Global Compact and the United Nations Principles for Responsible Investment (PRI), of which we are a member, we aim to balance both social and investment returns. Through asset management, we are dedicated to addressing global environmental and social challenges, with the goal of building a sustainable international society.

PRI Annual Assessment (2023) - Rated “5-stars” in all categories -

In 2023 PRI Assessment, Sophia School Corporation for the first time received the highest “5-stars” rating across all categories evaluated. PRI signatories are required to submit annual reports on their activities, based on which PRI evaluates their performance.

Signatory of:



Ratings are assigned on a 5-tier point scale according to scores in each category, with “5-stars” representing the highest evaluation. Sophia School Corporation believes that incorporating ESG issues into investment decisions improves long-term returns and contributes to the healthy development of capital markets and a sustainable society. We view this latest assessment as the outcome of our ongoing efforts to further promote responsible investment activities based on the results of previous PRI assessments.

	Policy, Governance, Strategy	Outsourced Operation (Selection, Appointment, and Monitoring)						Trust Building
		Listed Equities (Passive)	Listed Equities (Active)	Bonds (Active)	Private Equity	Real Estate	Infrastructure	
University Assessment	★★★★★ (5-stars)	★★★★★ (5-stars)	★★★★★ (5-stars)	★★★★★ (5-stars)	★★★★★ (5-stars)	★★★★★ (5-stars)	★★★★★ (5-stars)	★★★★★ (5-stars)
Median	★★★ (3-stars)	★★★ (3-stars)	★★★ (3-stars)	★★★ (3-stars)	★★★ (3-stars)	★★★ (3-stars)	★★★★ (4-stars)	★★★★ (4-stars)

Participation in PRI’s Collaborative Engagement: “Spring”

We participated in “Spring,” a new collaborative stewardship initiative on biodiversity launched by PRI. Sophia School Corporation considers climate change to be a critically important social issue and acknowledges that the conservation of natural capital and biodiversity are equally significant concerns closely linked to climate crisis. Through our dedication to this initiative, we strive to make ongoing contributions to additional sustainable development goals, particularly those related to climate change adaptation.



Meeting with Fiona Reynolds, Former CEO of PRI, to Exchange Views on ESG Investment

Chancellor of Sophia School Corporation Sali Augustine and Trustee for Management Planning, Masafumi Hikima met with Fiona Reynolds, the former CEO of the PRI (Principles for Responsible Investment), an initiative for investors engaged in ESG investment under the UN, to exchange views on ESG investment.

During the meeting, active discussions were held, particularly focusing on the Japanese government's policy and measures to enhance the role of finance and investment in solving social challenges, as discussed in former Prime Minister Kishida's speech at the first-ever UN PRI Annual General Meeting held in Japan on October 3, 2023.

Fiona Reynolds led the PRI from 2013 to 2021, contributing significantly to the global expansion of the ESG investment movement. Under her leadership, the number of PRI signatories grew from 1,000 to over 4,000, and she also led efforts to enhance cooperation and networking among signatories, as well as to systematize reporting and feedback, thus advancing responsible investment.



Endorsement of JCI's New Proposal for Achieving a Decarbonized Society

Sophia University has endorsed the message from the Japan Climate Initiative (JCI), which calls for the Japanese government to set an ambitious 2035 target consistent with the 1.5°C goal. JCI urges the government to ensure that the next Nationally Determined Contributions (NDC) and the 7th Basic Energy Plan align with this target. This endorsement signifies Sophia University's commitment, as a JCI member, to accelerating efforts toward decarbonization and contributing to the creation of a sustainable society.



Introduction of Investment Cases (New Investments in 2023-2024)

Sustainable Bonds Issued by the World Bank (IBRD)



Funds are utilized for development projects across various sectors, including education, healthcare, infrastructure, governance, agriculture, environment, and women's empowerment in developing countries. Efforts are made to incorporate climate change measures into all projects, promoting comprehensive investment approaches that address climate change issues beyond specific sectors.

Water Bonds Issued by the Asian Development Bank



This investment supports projects and programs backed by the Asian Development Bank that address water and sanitation security needs in the Asia-Pacific region, including water supply, sanitation, resource management, irrigation management, and water-related disasters.

Investment in the Global Farmland Strategy Fund



This investment aims to generate stable returns through the lease management of globally diversified farmland and the sale of agricultural products while contributing to environmental conservation and ecosystem protection by promoting sustainable agriculture.

Investment in the "Feed Africa Bond" Issued by the African Development Bank



The African Development Bank is an institution established to contribute to the economic growth and social development of its regional member countries in Africa. Its mission is to reduce poverty, improve living standards, and provide financial support for Africa's economic and social development. This investment contributes to solving food production challenges in Africa.

Signing of the "Financial Sector Statement Calling for an End to Plastic Pollution"

The 4th Intergovernmental Negotiating Committee (INC-4) for establishing an international legally binding instrument (ILBI) on plastic pollution will be held in Ottawa, Canada, from April 23 to 29, 2024. Prior to these negotiations, UNEP FI, PRI, the Finance for Biodiversity Foundation, Business Coalition, VBDO, and CDP jointly created a financial sector statement. The statement expresses support for an ambitious ILBI to eliminate plastic pollution and outlines what a strong agreement from the financial sector should include.

As a responsible asset owner running educational and research institutions, Sophia University recognizes its role in mitigating financial risks related to plastic pollution through investments. The university is committed to transitioning towards a sustainable, safe, fair, and resource-efficient circular economy for plastics, while continuing to contribute to solving various global challenges represented by the SDGs.

https://www.sophia-sc.jp/news/20240501_02/

Major Global Initiatives

Sustainable Investment (Overall)

Signatory of:



A set of principles supported by the UN that requires institutional investors to incorporate ESG issues into their investment analysis and decision-making processes.

Sustainability Reporting



A framework for disclosing climate-related risks and opportunities. Participation as a TCFD supporter.

Environment



Initiatives for collaborative dialogues with companies with significant greenhouse gas emissions, focusing on strengthening climate change measures and enhancing disclosures.



Engagement with companies addressing key biodiversity issues (such as deforestation and land degradation) to support their efforts in resolving these challenges.



A network aimed at strengthening the dissemination of information and exchanging opinions with Japanese companies, municipalities, and NGOs actively working on climate change.

Social



A platform for collaborative dialogues among institutional investors on human rights and social issues.

For more details, please visit the official Sophia University website:

<https://www.sophia-sc.jp/disclosure/esg>

Status of Sophia School Corporation's Environmental Impact (Higher Education Division)

Energy Consumption and Greenhouse Gas Emissions

The Higher Education Division of Sophia School Corporation has three main campuses: Yotsuya Campus, Mejiro Seibo Campus, and Hadano Campus. The Yotsuya Campus is where all Sophia University undergraduate and graduate students receive their education and conduct research activities. The Mejiro Seibo Campus is used by some students of the Department of Nursing of Sophia University's Faculty of Human Sciences, and the Hadano Campus is where Sophia University's Junior College is located.

Of the energy consumed by Sophia School Corporation¹, Yotsuya Campus accounts for 94.2%. (Figure 1) By energy type, electricity accounts for about 77.1%, and city gas (LNG)² for about 22.8%. Fuel, such as kerosene is mainly used to heat the Hadano Campus, but their share is extremely small. (Figure 2)

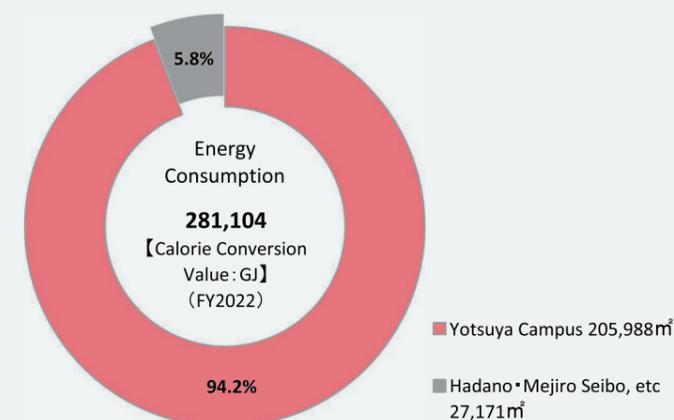


Figure 1

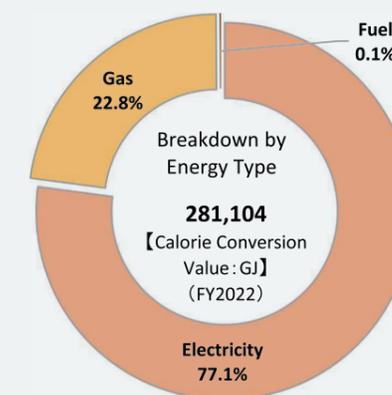


Figure 2

Greenhouse gases emitted by facilities on main campuses include not only those from energy use, but also emissions associated with water use, sewage, and waste treatment. Greenhouse gas emissions were estimated based on such use and waste volumes in fiscal 2022³. Greenhouse emissions (CO2 equivalent) in fiscal 2022 amounted to 13,846 tons, with electric power consumption accounting for around 73.1% and city gas (LNG), for around 23.1% (Figure 3).

From fiscal 2020 through fiscal 2021, Sophia School Corporation has procured 100% renewable power for our main campuses. In fiscal 2021, Sophia School Corporation procured carbon neutral LNG⁴ for the Yotsuya and Mejiro Seibo campuses. This has led to substantially net zero greenhouse gas emissions from electric power and city gas use, with the exception of some facilities⁵, thus significantly reducing emissions by around 94.9%. Sophia School Corporation has significantly reduced its CO2 emissions associated with energy use. On the other hand, energy consumption in fiscal 2022 exceeded that of the previous year. In addition, since energy sources that do not emit significant greenhouse gases might see future price increases due to rising energy and environmental values, behavior changes (promoting energy conservation) are considered necessary from a cost perspective as well.

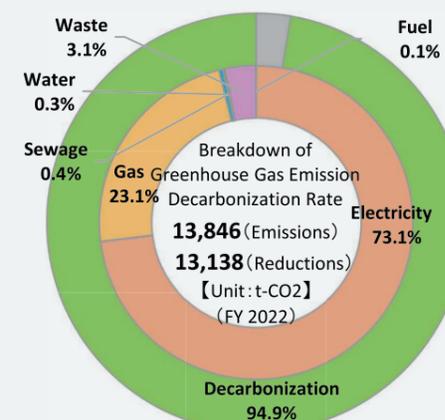


Figure 3

Because the total annual energy consumption of Sophia School Corporation exceeds

the standard specified in the “Law Concerning the Rational Use of Energy” (Energy Conservation Act), it is a specified business operator under the Act, which means that it has a responsibility to advance energy conservation in particular. Every year, Sophia School Corporation reports to the Ministry of Economy, Trade and Industry (METI) and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) on the quantity consumed and its plans for cutting back on energy consumption.

Furthermore, based on the Act on Promotion of Global Warming Countermeasures, Sophia School Corporation is obliged to report greenhouse gas emissions annually to the Ministry of the Environment and to reduce total greenhouse gas emissions based on the Metropolitan Government’s Ordinance on Environment for Protection of Resident Health and Safety (Tokyo Metropolitan Nature Conservation Ordinance).

*1 Energy consumption in FY2022

*2 liquefied natural gas

*3 Estimations for emissions from water use and sewage are based on the emission coefficient under the Tokyo Cap & Trade scheme. Waste volume estimations were conducted for the Yotsuya and Mejiro Seibo campuses based on LCI Database IDEA Version 2.3 (copyrighted work by the Research Institute of Science for Safety and Sustainability, National Institute of Advanced Industrial Science and Technology (AIST) and Sustainable Management Promotion Organization)

*4 Virtually zero-emission LNG that has offset greenhouse gas emissions generated from well to combustion with credits

*5 Rented areas and dormitories, etc

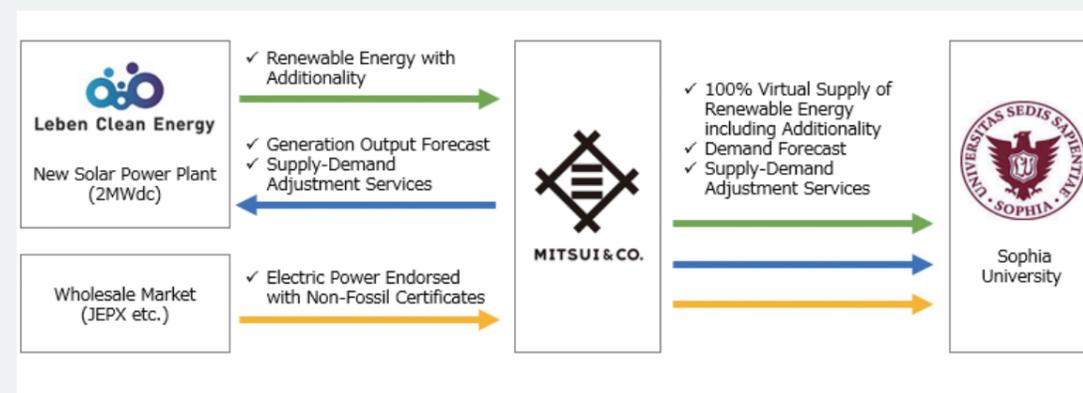
Sophia University’s Yotsuya Campus Introduces Off-site Physical Corporate PPA Using Renewable Energy-based Electricity

Under this physical power purchase agreement or PPA^{*1}, Sophia University will receive supply with renewable energy with additionality^{*2} purchased from a new solar power plant (total generation capacity: approximately 2 MW) to be established within an area covered by Tokyo Electric Power, as well as electric power endorsed with a non-fossil certificate with tracking information^{*3}. This will bring the net renewable energy ratio for electric power used in the Sophia University campus to 100%, including additionality.

*1 Under the physical power purchase agreement (PPA), electric power produced using renewable energy is sourced offsite from locations other than the demand area. The renewably generated power, together with the resulting environmental value, is supplied to users through the General Electric power grid.

*2 “Additionality” refers to the effect of encouraging further investment in new renewable energy facilities, created by third parties’ commitment to purchasing renewable electric power, certificates, and credits.

*3 A non-fossil certificate that identifies the source of the electric power.



Regulatory and Disposal Responsibilities Related to Waste

Waste processing is classified according to its properties, type, and discharging entity, and is regulated by various laws and ordinances for the prevention of environmental pollution and effective use of resources. Sophia School Corporation is responsible for the collection, transportation, and disposal of all industrial waste it generates. For this reason, Sophia School Corporation outsources the collection, transportation, and disposal of waste materials to a business operator licensed under the relevant laws and regulations.

In addition, by using digitalized industrial waste management sheet (manifest), data is shared among the three parties of “waste generators,” “collection and transportation companies,” and “disposal companies” to improve communication efficiency, while keeping track of the type and amount of waste, and the flow from discharge to collection and transportation, and to final disposal.

Volume of Discharged Waste and Reuse Rate

The Yotsuya Campus generated about 600 tons of waste per year before the COVID-19 pandemic, but in fiscal 2022, the amount was roughly 386 tons. Figure 5 shows the trend in the amount of waste generated from fiscal years 2018 to 2022. The reuse rate suffered a notable decline because of a significant rise in paper contaminated with food residue, making it unsuitable for reuse. On the other hand, the reuse rate for noncombustible materials has remained high. (Figure6 Trends in waste reutilization rates)

Table 1 Main laws and regulations that apply

Classification	Main laws and regulations that apply
Waste in solid form	The Waste Disposal and Cleaning Act (Waste Disposal Act) Law for Promotion of Effective Utilization of Resources Individual Items Recycling Law Home Appliance Recycling Law Small Home Appliance Recycling Law, etc. Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes
Waste in liquid form (including wastewater)	The Waste Disposal and Cleaning Act (Waste Disposal Act) Water Pollution Control Act Sewerage Act
Waste in gaseous form	Air Pollution Control Act Law Concerning the Promotion of the Measures to Cope with Global Warming Act on Rational Use and Proper Management of Fluorocarbons
Others	Soil Contamination Countermeasures Act

Progress of Campus Improvement

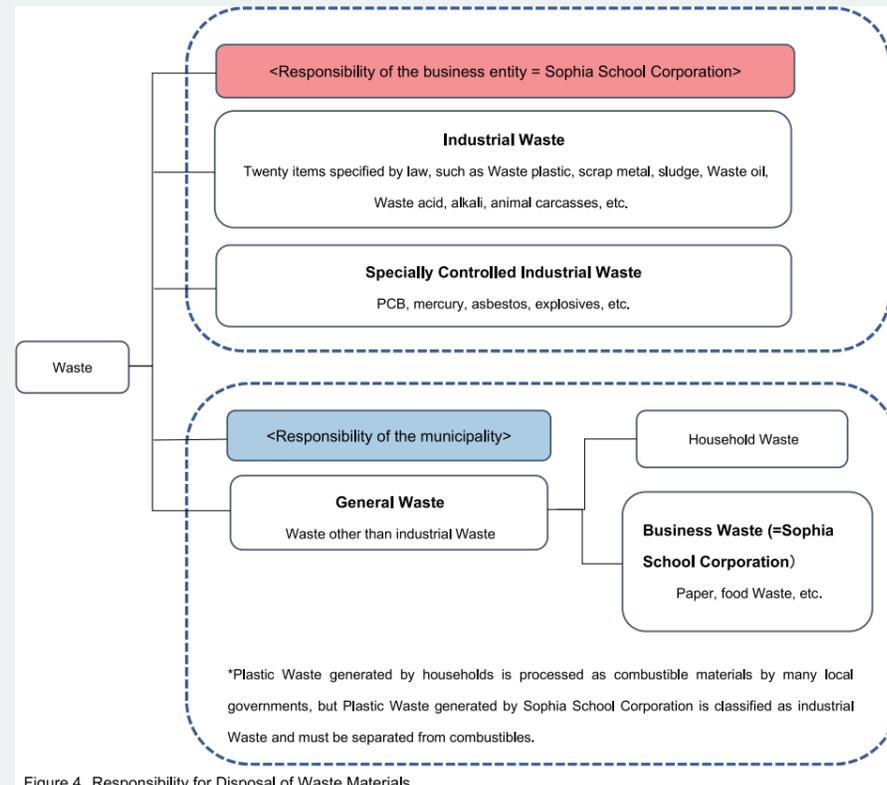


Figure 4 Responsibility for Disposal of Waste Materials

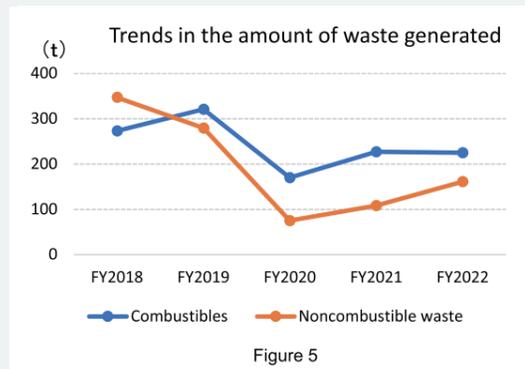


Figure 5

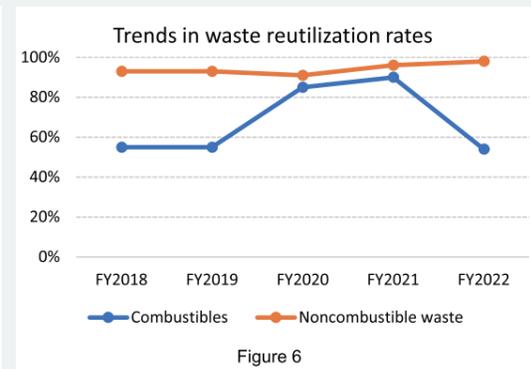


Figure 6

3R (Reduce, Reuse, Recycle) Initiatives

Sophia School Corporation is currently actively engaged in the following initiatives, some of which have been implemented based on suggestions from the students.

- ① A recycling system where confidential documents are dissolved and converted into toilet paper, which the university then purchases
- ② The reduction of plastic bottle waste through the installation of water servers
- ③ The installation of clearly labeled trash bins for waste separation
- ④ The reuse and recycling of computer equipment

Faculty, staff, and students will continue to work together to achieve SDG 12, "Responsibility to Create, Responsibility to Produce."

With the aim of improving the campus environment, exterior construction work on the Yotsuya Campus is progressing in stages.

<Renovation Work on Main Street>

This fiscal year, we have been redeveloping the area from the center of the Main Street to the North Gate and Kojimachi-dori.

Since the start of construction in fiscal 2021, we have continued to collaborate with student staff from the Office for the Promotion of Diversity and Sustainability, exchanging ideas in terms of the SDGs, environmental care, sustainability, and universal design, and proceeded with the redevelopment. An open space (greenbelt) with lawns and trees was created around the area of the iconic tree inside the North Gate, providing a place to feel nature at the heart of the urban campus. A three-dimensional sculpture with the letters "SOPHA U" symbolizing Sophia University was also installed.

This construction project has completed the exterior work for the primary sections along the eastwest and north-south axes of the Yotsuya Campus.



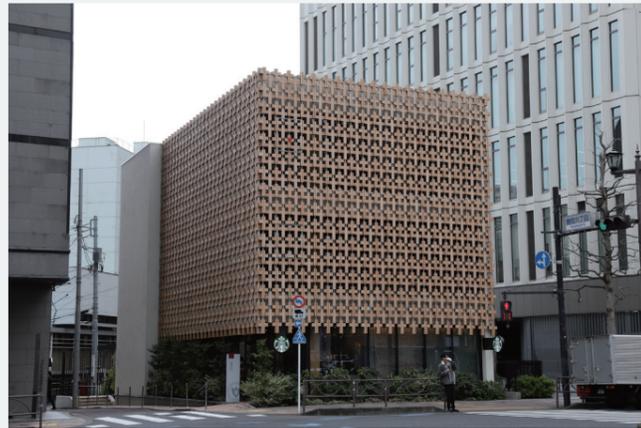
<Building No.15>

In constructing Building No.15, the newest structure on the Yotsuya Campus completed in May 2022, wood was chosen as the key material for its minimal environmental impact, contribution to lowering CO2 emissions, and encouragement of recycling and the sustainable use of forest resources.

The exterior of the building is designed with a lattice of intersecting timbers of different thicknesses made from Japanese cedar grown in Tama, expressing Sophia University's founding principles of "diversity," "interaction with others," "truth," and "tradition."

This design was honored with the Wood Design Award 2023 (Architecture & Space Segment),

sponsored by the Japan Wood Design Association. The Wood Design Award is a program that recognizes and commends outstanding architecture, spaces, products, activities, systems, and research with the aim of restoring the qualities and value of wood through the power of design.



〈Building No.12, Basement Lounge〉
The lounge space adjacent to the convenience store in the basement of Building No.12 has undergone renovations. From the early stages of planning, student staff from the Office for the Promotion of Diversity and Sustainability engaged in active discussions to identify and analyze current issues in order to define the envisioned post-renovation look of the space.



School Corporation •
University-wide Initiatives



Sophia Program for Sustainable Futures (SPSF)

As a part of "Top Global University Project", the Sophia Program for Sustainable Futures (SPSF), an English-taught, collaborative course among six departments, started in 2020.

Through SPSF, we aim to develop students' ability to overcome challenges in the future by building a curriculum that considers solving not only the Sustainable Development Goals (SDGs) established by the United Nations, but also issues such as war and conflict, economic disparity, poverty, environment, and education, and global issues that occur beyond countries and regions in today's rapidly globalizing society, as well as complex and difficult issues where diverse values collide. This curriculum is designed so that in the first year after enrollment, students learn about a sustainable future in relation to academic disciplines, in the second year, gain diverse learning and experience, in the third year, they bring together the knowledge, skills, and experience they have acquired to work toward a sustainable future, and in the fourth year, each department conducts creative graduation research.

Welcoming the fifth cohort in September 2024, the total number of students in the six departments reached approximately 200. Students from different departments will study together, identifying the challenges they face in creating a sustainable future, thinking about ways to solve them, and exploring what actions they should take.

During their four years of learning, students will study a wide range of subjects, including not only their own department's subjects that deepen their knowledge in their own field but also subjects offered by other departments in SPSF and departments other than SPSF. They will also utilize practical educational programs both on and off campus, including study abroad and internships, to learn perspectives and ways of thinking not only in their department's specialized field but also in other fields, fostering the sensibility to learn with diversity. SPSF is an educational program aimed at realizing the core theme of a sustainable future.



About SPSF

- Concept
 - ✓ Enhancing your expertise in your department
 - ✓ Broadening your horizons with global and local approaches
 - ✓ Aiming to build a sustainable future together with peers
- Features
 - ✓ Interdisciplinary approach
 - ✓ All departments learn at the same campus in Tokyo
 - One Campus (Yotsuya Campus)
 - ✓ All classes conducted in English
 - ✓ Offering Bachelor's degree in specialized fields of study
 - B.A. in Journalism, B.A. in Education,
 - B.A. in Sociology, B.A. in Economics,
 - B.A. in Management, B.A. in Area Studies,
 - B.A. in International Relations.

SPSF Curriculum

YOUR FOUR YEARS at SPSF

	YEAR 1		YEAR 2		YEAR 3		YEAR 4	
	Autumn	Spring	Autumn	Spring	Autumn	Spring	Autumn	Spring
SPSF Common Core	Theme-based First-Year Lecture (about SF)	Academic Skills Academic Writing 1	Academic Skills Academic Writing 2		Theme-based Third-Year Seminar for SF			
Specialized Education of the selected fields of study	Courses offered by Dept. of Economics						Bachelor's thesis	
	Courses offered by Dept. of Education						Bachelor's thesis	
	Courses offered by Dept. of Global Studies				Interdisciplinary Learning		Bachelor's thesis	
	Courses offered by Dept. of Journalism						Bachelor's thesis	
	Courses offered by Dept. of Management						Bachelor's thesis	
	Courses offered by Dept. of Sociology						Bachelor's thesis	
General Studies	Compulsory & elective courses including foreign language courses taught in Japanese							
Others			Internships					
			Study Abroad					
			Social Engagement Programs					
			Off-Campus Programs / Life Events					

Other activities may need the extra semester(s) to graduation.

The SPSF curriculum consists of the SPSF Common Core (lectures and seminars on sustainable futures). Academic skills (basic studies to strengthen learning skills in English, including writing, critical thinking, discussion and presentation). Specialized Education and University-wide courses. Additionally, as the culmination of four years of learning, a "Graduation Thesis/Project*" is included in the fourth-year curriculum, providing students with the opportunity to study in preparation for their future careers after graduation.

*For information on the Graduation Thesis/Project of the students who graduated in September 2024, please see the next page.

<https://spsf.sophia.ac.jp/>



SPSF Courses

- Department of Journalism, Faculty of Humanities
- Department of Education, Faculty of Human Sciences
- Department of Sociology, Faculty of Human Sciences
- Department of Economics, Faculty of Economics
- Department of Management, Faculty of Economics
- Department of Global Studies, Faculty of Global Studies



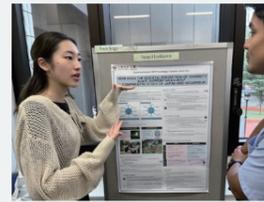
Graduation Research by the SPSF first cohort

Question : How does your thesis/topic relate to sustainable futures?

Sana HORIKAWA from the Department of Sociology

“How does the Societal Perception of Disability Shape Support Measures? A Comparative Study of Japan and Nicaragua”

My thesis aligns with the universal value set of “leaving no one behind”, established by the 2030 Sustainable Development Goals, as it emphasizes inclusivity, integration, and the role of civil society. With this, it aims to highlight the significance and approaches to creating sustainable change and reducing inequalities (Goal 10).

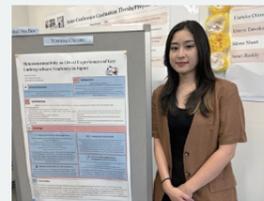


Haruka OIZUMI from the Department of Global Studies

“Heteronormativity as Lived Experiences of Gay Undergraduate Students in Japan”

My thesis focuses on social sustainability, which aims to create equitable and inclusive societies. Heteronormativity inflicts barriers to achieving this, harming the well-being of LGBTQ+ individuals and ultimately fostering systemic discrimination in laws and policies.

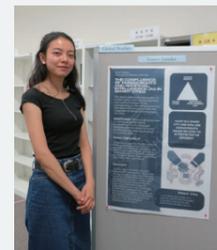
Understanding LGBTQ+ youths’ experiences with heteronormativity allows us to grasp how this bias is reflected in our subtle, often unconscious acts, creating non-inclusive environments for those who do not fit the heterosexual standard.



Izumi TANAKA from the Department of Global Studies

“The Confluence of Human Rights and Artificial Intelligence (AI) in Smart Cities”

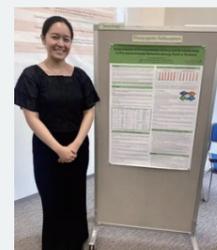
The intersection of smart cities, human rights, and AI is closely related to sustainable futures as it is related to the right to the city and well being of citizens. In particular the SDGs goal 11: Sustainable cities and communities, which aims to “make cities and human settlements inclusive, safe, resilient and sustainable” is explored through my thesis topic.



Poonyaporn SUTHAMPORN from the Department of Sociology

“Determinants of Environmental Literacy and its Relationship to Pro-environmental Behaviors among Youth in Thailand”

This thesis directly addresses SDG13: Climate Action as it explores the determinants that influence environmental literacy and action among youth in Thailand. The findings from this thesis is also highly intertwined with SDG3: Good Health and Wellbeing, SDG4: Quality Education, SDG11: Sustainable Cities and Communities and SDG12: Responsible Consumption and Production as Thai youth believe that deep-rooted institutional reforms in education and social infrastructures can nurture environmentally-aware and active individuals who will promote sustainable development in Thailand.



For more details on their views, check the following link
<https://spsf.sophia.ac.jp/20240905/graduation-research-by-the-first-spsf-cohort>



Developing global human resources to tackle global environmental issues toward the realization of the SDGs

Human’s daily lives and business activities contribute to environmental issues we face today such as global warming, waste problems, chemical, air and water pollution, and the decline of natural capital and biodiversity.

To address these environmental issues, in line with the SDGs (United Nations Sustainable Development Goals), we need to further improve environmental education and ESD (Education for Sustainability) to transform human activities and create society that can realize new economic development (sustainable society) while protecting the healthy and bountiful environment.



To this end, Sophia University has established the Graduate School of Global Environmental Studies (GENV), integrating social and natural sciences to conduct more advanced research and education. The faculty members consist of domestic and international experts in diverse academic fields such as law, economics, policy studies, business administration, sociology, and science and engineering, and part-time lecturers are leading researchers in environmental studies in Japan today.

In addition to the Japanese-language course, the program offers an International Environmental Studies Course, which can be taken only in English. The program accepts many international students from Asia, Africa, South America, North America, Central America, Europe and other parts of the world. At the Graduate School of Global Environmental Studies, students receive a high standard of education and guidance from global perspectives to cope with their environmental issues and interests in their own country and region.

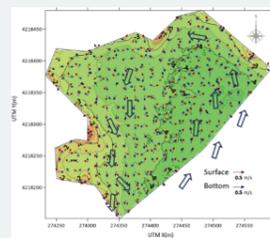
https://www.sophia.ac.jp/jpn/academics/g/g_genv/

Sophia University's SDGs Activities on Sado Island (2024)

Sophia University signed a comprehensive partnership agreement with Sado City in fiscal 2022. Based on this agreement, we are conducting the following education and research activities at Lake Kamo on Sado Island.

1. Environmental surveys implemented mainly around Lake Kamo in Sado, an important wetland designated by the Ministry of the Environment.

- Disaster-related surveys
 - (1) Topographical survey of Lake Kamo: Survey of changes in the lake bottom topography due to the Noto Peninsula earthquake that occurred on New Year's Day 2024
 - (2) In response to the tsunami warning issued for the Sado coastline following the Noto Peninsula earthquake; survey of the evacuation situation following the warning, particularly the evacuation response at elderly care facilities in areas expected to be flooded
 - (3) Survey of whether the Noto Peninsula earthquake caused any changes in the temporal and spatial distribution of water quality in Lake Kamo
 - (4) Exploring a system for supplying energy on Sado Island in the event of a disaster
- Survey of inflow load from lakeside rice fields to Lake Kamo
- Lake Kamo shoreline landscape assessment



2. Environmental research conducted by GENV students

- Study on agriculture and river management for the Japanese crested ibis, etc.
- Survey on island residents' awareness of environmental conservation
- Observation of Sado's water culture, including rice terraces and tub boats



Sophia Mirai Juku

In May 2024, Sophia University offered the online "Sophia Mirai Juku" for high school students in the spring and fall semesters. This is a new initiative in which high school students can interact with current staff members of the United Nations, UNICEF, the United Nations High Commissioner for Refugees, the World Bank, and other organizations, as well as experts who have worked in these organizations.

Five sessions were held in the spring semester and four sessions in the fall semester. At its maximum, approximately 400 students from high schools across Japan participated in the online sessions. Many students showed a strong interest in global issues, and many questions were asked at the end of the lectures, which proved to be a valuable opportunity to think together with experts about the ever-changing state of the world and the issues facing the global community.



Courses and parentheses indicate the location of the lectures that the lecturer participates
[Spring Semester]

- (1) May 11 ◆ Yasuhiro Ueki Specially Appointed Professor of Sophia University and former Information Officer and Spokesman for the United Nations (Japan)
*Coordinator
- (2) May 18 ◆ Yoshiteru Uramoto Former Regional Director of the ILO Regional Office for Asia and the Pacific, member of UNICEF, etc. (Japan)
- (3) May 25 ◆ Kumiko Chaki Former UN Human Resources Specialist/Manager (San Diego, United States)
- (4) June 1 ◆ Kyoko Yokosuka Deputy Executive Coordinator United Nations Volunteers Programme (Bonn, Germany)
- (5) June 8 ◆ Yutaka Tatewaki Protection Officer at UNHCR (Geneva, Switzerland)

[Fall Semester]

- (6) October 5 ◆ Hiroshi Kuwata Programme Specialist for the Europe and Central Asia, Country Support Management Team, Crisis Bureau (New York, United States)
- (7) October 12 ◆ Mihoko Kumamoto Director of UNITAR Division for Prosperity (Geneva, Switzerland)
- (8) October 19 ◆ Mari Yamashita Representative of the United Nations Secretary-General, Director of the UN Office in Belgrade, United Nations Interim Administration Mission in Kosovo (UNMIK) (Belgrade, Serbia)
- (9) October 26 ◆ Kazuhide Kuroda Former Social Development Officer of the World Bank (Japan)

Sophia University Human Resources Center for International Cooperation
<https://dept.sophia.ac.jp/is/shric/news>

For the latest information, be sure to visit the Sophia University website.

Sophia Global Citizen Program

In April 2024, Sophia University launched a new course open to the general public called the Sophia Global Citizen Program.

In the spring semester of 2024, over 500 people, including working adults, university students, and high school students, participated. Active learning and knowledge exchange took place over the course of several months.

A total of 19 courses were offered related to the three themes of social issues, technological innovation, and social change.

Some courses were held online, and participants hailed from not only the Kanto region but also from all over Japan and even overseas.

【Lectures on the SDGs (the following represents a selection)】

- From a Conflict System to a Peace System
Hideyuki Koyama, Special Contract Professor, Faculty of Theology
- SDGs and Peace
Daisaku Higashi, Professor, Center for Global Education and Discovery
- Sustainable Materials and Energy Rooted in Real Life
Masahiro Rikukawa, Professor, Faculty of Science and Technology
- Inequality and Education in Japanese Society
Shinichi Aizawa, Professor, Faculty of Human Sciences
- AI's Contributions to Society and Challenges: Poverty Issues
Masamitsu Kurata, Associate Professor, Faculty of Economics
- Sustainable Materials for the Environment and Health
Yuko Takeoka, Professor, Faculty of Science and Technology
- Sustainable Innovation in Everyday Life
Satoshi Horikoshi, Professor, Faculty of Science and Technology
- Disaster Prevention Measures that Take into Account Extreme Weather
Sato Sanai, Assistant Professor by Special Appointment, Center for Liberal Education
- How to Work and Live in the Future Capitalist Society thinking with a Behavioral Economist
Satoshi Kawanishi, Professor, Faculty of Economics
- Sustainable Regional Development
Rokuro Tabuchi, Professor, Faculty of Human Sciences



Participants expressed a high level of satisfaction with the program. Some of their comments included the following. "I was able to understand the future issues we need to address, and I want to do what I can to get others involved." "I was able to learn about the latest research by experts in various fields and local countermeasures, and by researching various things for the assignment to think about disaster prevention and mitigation plans, I was able to update my own knowledge of disasters and disaster prevention." "I am a company employee whose job is not directly related to the theme of this lecture, but this lecture made me keenly aware that peace is what makes our daily lives and work possible." "This is an important issue for the world today, and there were things I wanted to know, so listening to the professor's lecture helped me understand a lot of them. Many high school students participated and it was encouraging to see interest from the younger generation." "The course curriculum made me want to become a good citizen, and it also made me want to take action to achieve that goal."

Sophia Global Citizen Program Website
<https://sgcp.sophia.ac.jp/>



Ecotour including mangrove planting conducted in Uken Village, Amami Oshima

First initiative under collaborative agreement with Japan Airlines, ITOCHU Corporation, and Uken Village, Amami Oshima

From March 14 to 17, an ecotour was held in Uken Village, Amami Oshima, to experience its nature, culture, and mangrove planting. This tour, organized by Japan Airlines, was the first initiative under the collaborative agreement on environmental conservation and regional development in Uken Village, signed in September 2023 by Sophia University, Uken Village, Japan Airlines, and ITOCHU Corporation.

A total of 20 people attended the tour, including 13 employees and family members from ITOCHU Corporation and 7 students from Sophia University. The participants learned about the history of Amami Oshima and its "Shimauta," traditional folk songs, participated in mangrove planting, visited the village's landmarks, and touched its natural beauty and culture.

In addition, a workshop on Sustainable Development Goals (SDGs), organized by Professor Akemi Ori from the Graduate School of Global Environmental Studies, introduced the concept of SDGs through a card game. Professor Ori gave a mini-lecture on "World Heritage, Nature Positivity, Ecotourism, and SDGs," which deepened participants' understanding of the balance between environmental conservation and regional promotion.

Students who participated said, "I want to visit the village in person after proposing tourism plans in Uken Village during a collaborative course with Japan Airlines," and "It was a fulfilling four days with opportunities to interact with the people of Uken Village, employees of ITOCHU Corporation, and experience local culture, nature, and food."

This tour will continue to be improved and conducted on a regular basis, contributing to environmental conservation through initiatives such as reforestation and promoting regional development in Uken Village.

<https://www.sophia.ac.jp/jpn/article/news/topics/20240327ecotour/>



CÉCITOUR TOKYO—Sporting Event for the Visually Impaired

On Sunday, May 12, 2024, CÉCITOUR, an event raising awareness about sports for the visually impaired sports originating in France, was held as CÉCITOUR TOKYO at Sophia University's Yotsuya Campus.

The name CÉCITOUR was coined from the French word "cécité", which means blindness. It is a mobile event certified as part of the Impact 2024 program for the Paris 2024 Olympic and Paralympic Games, aiming to promote sports for the visually impaired and develop a network of stakeholders. CÉCITOUR traveled around France from 2023 and was held a total of seven times before the Paris Games. This time, with the cooperation of Charly Simo, Director of Blind Sport, Fédération Française Handisport, which organizes the event, CÉCITOUR was held for the first time outside France, together with Sophia Olympic and Paralympic Student Project "Go Beyond". Due to strong winds on the day, all the events that were planned in the main street area were moved inside Building No. 6. At the opening ceremony, students from Go Beyond made a powerful opening declaration, which was followed by events related to supporting the visually impaired, such as blind sports experiences, athlete talk show, and promotions by companies and organizations. There were also events unique to Sophia University, such as a department consultation corner and a cheese party hosted by the French Department club.

The CÉCILYMPICS, one of the highlights of the event, took place at Gymnasium No. 3. With the cooperation of the NPO Japan Blind Football Association, former Japan national blind football team member Kento Kato was welcomed as a special guest, and around 100 participants got to experience blind football.

Participants were divided into 10 teams and played mini games in which they passed the ball around with their hands and feet and hit cones while wearing eye masks. At first, many participants were confused and had difficulty even touching the ball, but with the support of their teammates through sounds such as calling out to each other and clapping, they gradually improved and enjoyed playing in a world they could not see. The experience lasted just two hours but fostered a great sense of unity.

Finally, Kato shared his passion for blind football, saying, "Communication is important in blind football. How do people who can see and people who can't cooperate with each other on the pitch? I want people to pay attention not only to the people wearing eye masks, but also to the goalkeeper and the coach. I hope to use this experience as a springboard to make blind football more popular together."

A talk show was held in Room 101 of Building No. 6 by Mr. Charly Simo, founder of CÉCITOUR, Mr. Junichi Kawai, Chairman of the Japanese Paralympic Committee, and Mr. Shiro Shiojima, then President of the Japan Blind Football Association and a Sophia University alumni. The talk covered topics such as the society hoped to be achieved through CÉCITOUR and challenges facing Japan and France in supporting the visually impaired. Discussions also included the contributions of blind sports to the realization of an inclusive society from the perspectives of both Japan and France.

Mr. Shiojima stated, "Blind football is a sport in which people with and without sight play together on the same pitch. It's the embodiment of an inclusive society," emphasizing the importance of communicating the sport's social value. He also cited unconscious prejudice as an issue facing Japan, and expressed his enthusiasm, saying, "I want to change the way people think in the future."

Mr. Charly Simo praised Japan's accessibility measures and said he would like to adopt them in France. He also expressed his hopes for the future, saying, "I don't see disabilities as handicaps, but as a difference. I want to aim for a society where everyone can find their places and there is no longer an 'a' that separates abnormal from normal." Regarding the current situation in Japan, Mr. Kawai said, "It shouldn't end with simply changing the rules of society. It's important to put



efforts into educating children and change their awareness." He added, "Japan has been at the forefront in terms of supporting people with disabilities, having hosted two Paralympics, but there are also areas where communication is lacking due to the language barrier. Going forward, I would like to share more of Japan's proud technology."

The current situation and future proposals from these three legends representing the Japanese and French blind sports worlds provided a valuable opportunity to think about what we can do to work towards an inclusive society.

To close the event, an athlete talk show was held, titled "To those who pursue their dreams." Speakers included Mr. Kawai, blind footballer Kaito Niwa, rower and cross-country skier Ryohei Ariyasu, and deaf footballer Takumi Matsumoto. With the theme of "achieving dreams that cannot be achieved alone," the talk show featured a lively discussion between the speakers and the Go Beyond students who acted as facilitators on topics such as team building tips, the difficulties of working with others from different backgrounds, and indicators for achieving goals. Mr. Matsumoto, who serves as captain of the deaf football team, spoke about the role of a leader in team building, saying, "First of all, it's important for each person to have their own goals. After that, I make sure to set aside time for dialogue to convey my thoughts and listen to the thoughts of others. At the same time, I'm conscious of not denying the opinions of others."

Mr. Niwa emphasized the importance of the failures that accompany challenges, saying, "It's up to you whether you see failure as just a failure, or as a driving force for the next step. That's why it's important to find meaning in your efforts. That will lead to individual growth, and ultimately to team growth." He spoke about the importance of continuing to challenge oneself and shared his own experiences.

Using the example of rowing, a sport that has no gender or disability restrictions, Mr. Ariyasu spoke about the difficulties of working with teammates with different personalities. In order to work together toward a dream, he proposed specific actions to accept others, saying, "It's important to see differences as positive. By understanding each other's strengths based on each other's traits, we can see individuality in a positive way."

Ms. Kawai gave the participants warm words of encouragement, saying, "Dreams give you the energy to live positively, so first of all you need to have a wish for what you want to become. Dreams can be big or small. You don't have to have just one dream. The biggest mistake is not taking on the challenge. Have passion and take on the challenges of achieving your dreams."

Through this talk show, participants were able to reaffirm the importance of sharing goals and dreams with peers and building relationships of mutual respect. It also served as a valuable opportunity to share the great potential of parasports, which embodies these goals and dreams.

To close out the event, everyone in the venue performed the official dance of the Paris 2024 Games, creating an inspiring day with high hopes for the Paris 2024 Olympic and Paralympic Games. Ms. Hamai, representative of Go Beyond, the organizer of the event, looked back, saying, "We faced many challenges in organizing an inclusive CÉCITOUR for everyone. However, on the day, we saw how it became a new opportunity for interaction and a place to exchange information for the people involved and exhibiting organizations. We realized that this event has become an infrastructure that connects people. We will play our part in making it function as a sustainable movement in the future."

<https://www.sophia.ac.jp/jpn/article/news/topics/cecitour2024/>



Joint Workshop with Keio University and Tohoku University to Discuss Ukraine's Recovery and Reconstruction

Immediately after Russia's invasion of Ukraine in 2022, Sophia University co-hosted the "Ukraine Peace Symposium" with Keio University for students, pupils, faculty, and staff from both schools and the affiliated schools, providing an opportunity to think together and hear from the experts about what can be done to realize a society where people can live in peace.

Despite no end to the conflict in sight as of 2023, the international community has begun moving toward post-war reconstruction. Seeking to contribute from an academic standpoint, Sophia University, Tohoku University, and Keio University jointly planned and conducted a series of workshops to deliberate on reconstruction efforts and assistance to Ukraine.

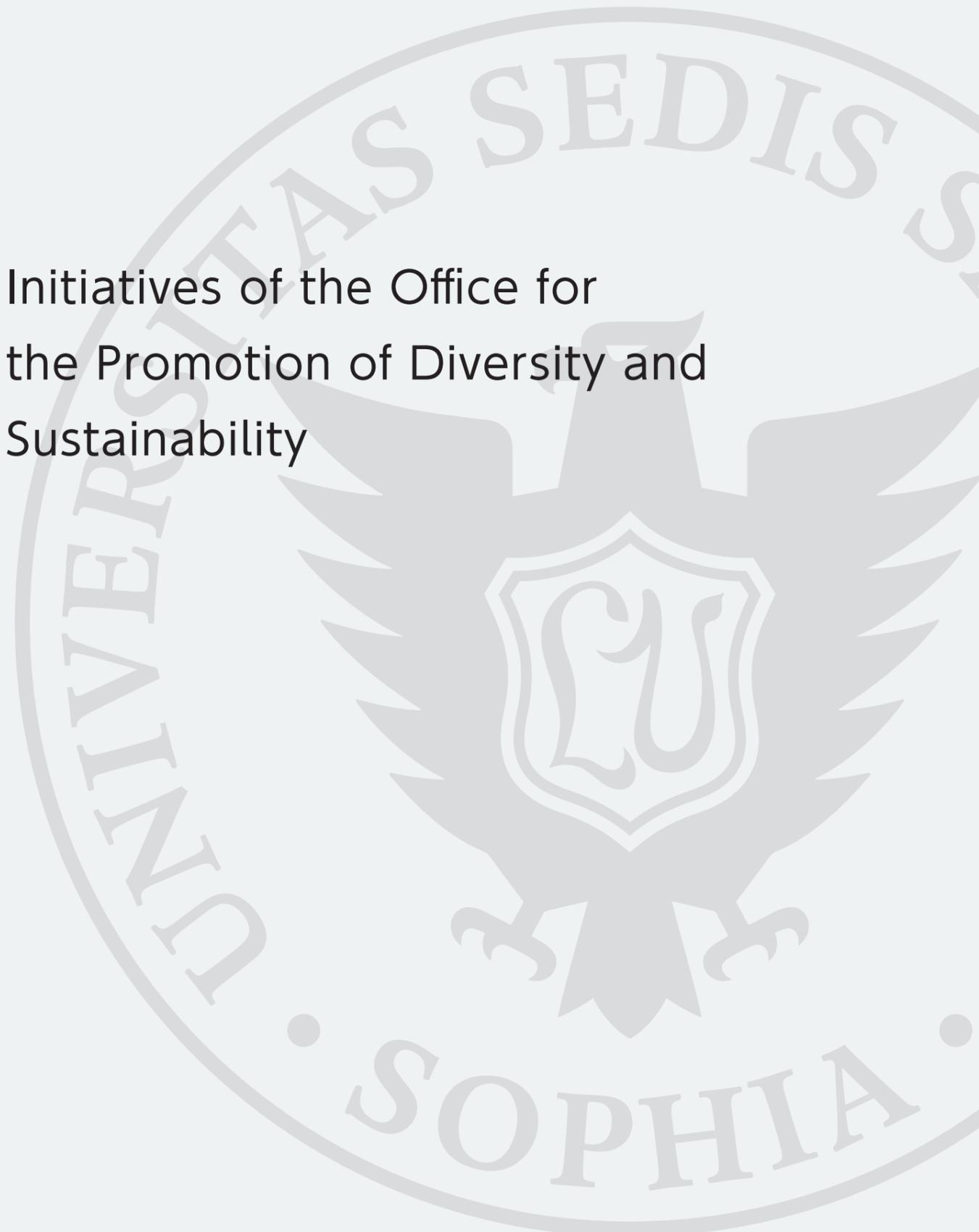
The first workshop, entitled "Ukraine's Recovery and Future," was held at Sophia University on June 30, 2023, and was attended by about 130 people. Professor Yasuhiro Ueki of the Graduate School of Global Studies and Director of the Sophia University Human Resources Center for International Cooperation (SHRIC), delivered a keynote speech on the latest status of reconstruction activities both domestically and internationally, as well as Japan's role in these efforts. Government and administrative agencies, NGOs, and industry experts, together with speakers from Keio University and Tohoku University, shared insights on the trends and issues in reconstruction assistance. They then deliberated on concrete approaches to offering reconstruction aid, leveraging the expertise acquired in their respective domains.

The second workshop was held at Tohoku University in September focusing on the importance of reconstruction support from the stakeholders' perspective and Japan's area of contribution. Case studies of post-disaster support from the perspective of disaster victims were introduced, along with reports by students from Ukraine. From Sophia University, Professor Taro Komatsu of the Department of Education, Faculty of Human Sciences, presented on peacebuilding through education and the potential contributions Japan can make.

The third workshop was hosted at Keio University in December, on the theme of "The Lublin Triangle and Japan." Professor Takeshi Yuasa of the Department of Russian Studies in the Faculty of Foreign Studies gave a lecture on regionalism in Eurasia after Russia's invasion of Ukraine. In addition, representatives from the embassies of Ukraine, Poland, and Lithuania, along with speakers from the three universities, discussed strategies for reconstruction through collaboration between the regional alliance of the three countries and Japan. The workshop provided an opportunity to consider the role of higher education institutions in the international issue of Ukraine's reconstruction, with a multifaceted set of themes that took advantage of each university's unique characteristics, specialist knowledge, and network.



Initiatives of the Office for the Promotion of Diversity and Sustainability



Establishment of the Office for the Promotion of Diversity and Sustainability

In July 2024, Sophia School Corporation merged the Office for the Promotion of Diversity and the Office of Sophia Sustainability Promotion to establish the new Office for the Promotion of Diversity and Sustainability. The new office aims to reorganize and address shared challenges from the previous divisions as well as strengthen our overall management structure and foster university-wide engagement.

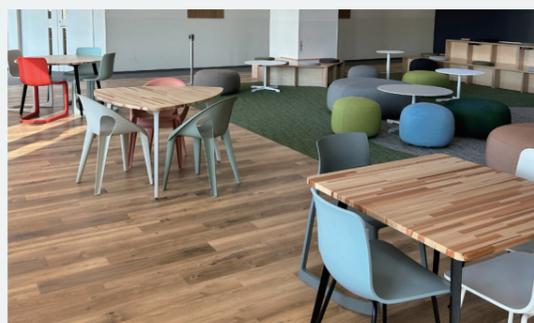
Diversity-related activities at Sophia University began in 2009 with the Project to Support Women Researchers in a Global Society, which was initially led by the Office for Promotion of Gender Equality. In 2011, the “Sophia Gender Equality Statement” was established. Subsequently, in response to the widening concept of diversity, it was reorganized as the Office for the Promotion of Diversity, and has been expanding the number of people eligible for support and enhancing the system.

In July 2021, the Office of Sophia Sustainability Promotion was established in collaboration with Sophia University’s affiliated schools, including junior colleges, high schools, and junior high schools. In order to fulfill the university’s social responsibilities, we have actively utilized the Universal Apostolic Preferences of the Society of Jesus (UAPs) and the Sustainable Development Goals (SDGs), a global initiative established by the United Nations, to further promote a number of actions. These include fostering collaboration and cooperation between research, education, extracurricular activity groups, and social contribution activities related to sustainability within the Sophia School Corporation, as well as information dissemination. As a unique initiative, we have encouraged collaboration between students, faculty, and staff by hiring student staff and having them participate in event planning, improvement of campus environment, and public relations activities.

The university’s medium to long-term policy “Grand Layout 3.0,” which was launched in 2023, calls for the promotion of diversity and sustainability throughout the university as an important objective, based on the papal encyclical “Laudato Si’,” the Jesuits’ UAPs (Four Aims), and the UN SDGs.

Based on this policy, the new office will not only carry on and strengthen the past achievements, but will also seek new strategies, aiming to contribute to the creation of a MAGIS (better) world through education, research, and social contribution.

Going forward, students, faculty and staff at Sophia University, its Junior College Division and its secondary schools will continue working together to carry out these activities.

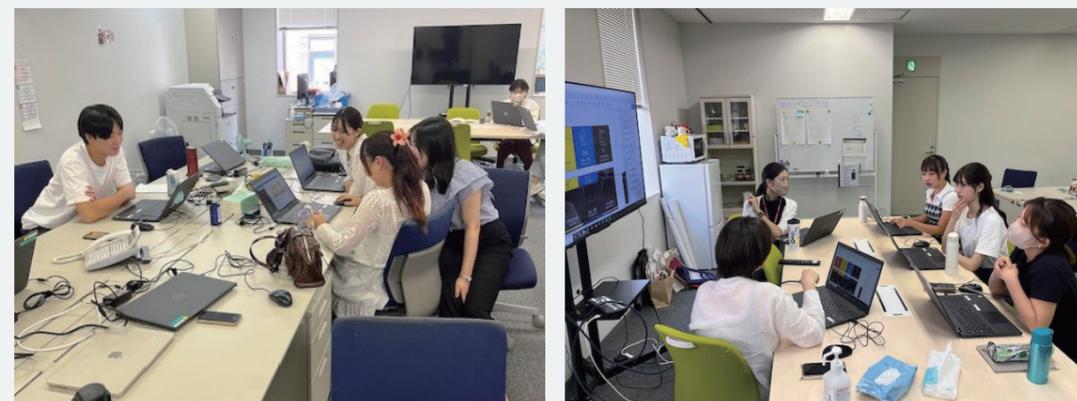


About Student Staff

Student staff members leverage their student perspectives, ingenuity, and creativity to carry out activities under the three themes: improving the campus environment, planning and organizing events, and disseminating information. They use their free time between classes to serve as part-time staff for about 10 hours per week. They also have the opportunity to experience a wide range of duties including administrative support for full-time staff, promotion of the office’s activities, information gathering, and organizational design. This provides them with an opportunity to acquire business skills and time management skills that will serve them when they eventually join the workforce after graduation.

Main Tasks of Student Staff

- 1) Realizing universal campus design
- 2) Initiatives to shrink environmental footprints
- 3) Planning of diversity and sustainability-related events
- 4) Planning industry-academia and community partnerships
- 5) Reporting on activities and initiatives
- 6) Disseminating event information



Initiatives of the Office for the Promotion of Diversity and Sustainability



Installation of Building Signs

Sophia University is implementing a campus sign improvement plan that focuses on the barriers to information at the Yotsuya Campus in order to create a campus where diversity is more respected and where people can feel safe. Based on the idea of developing campus signs in a hierarchical and continuous manner, the plan began in 2021 and so far has developed general information signs, area signs, and guidance signs that guide people to buildings on campus.

In 2023, we revamped building name signs, which had previously featured different designs across buildings. During this process, student staff walked around the campus to check for confusing areas and made the signs more easily recognizable, so that anyone can easily distinguish between the buildings. As the sign renewal plan continues, next up we intend to make further improvements to the signs inside campus buildings.



Publication of Sophia University's SDGs & Sustainability Report 2022-2023

We published the "SDGs & Sustainability Report 2022-2023" on November 22, 2023.

The report was compiled by student staff from the Office of Sophia Sustainability Promotion (currently the Office for the Promotion of Diversity and Sustainability). The report, which marked its third time being published, covers the past year's activities at Sophia School Corporation, which is leading the way in achieving the SDGs. It begins with a message from the President and Trustee of General Affairs, and goes on to introduce sustainable investments, the efforts of the Office of Sophia Sustainability Promotion, and examples of faculty, staff, and students working on each SDG.



<https://www.sophia.ac.jp/jpn/article/news/announcement/sdgsreports231122/>



Installation of Priority Elevator Signs

The elevators in Building No. 2 (2 out of 6) and Building No. 11 (1 out of 3) have been newly designed to be "Yuzuriai elevators." These two buildings are used frequently for classes, and long lines are always forming before and after classes to use the elevators, and some students and staff have difficulty getting around without an elevator. The "Yuzuriai elevators" have been established to allow those in need to ride first, and the friendly design, including that of the university's mascot Sophian-kun is used to raise awareness among users.



Booth at EcoPro 2023 (SDGs Week EXPO)

The Office of Sophia Sustainability Promotion and the Institute for Studies of the Global Environment hosted a booth at EcoPro 2023, or SDGs Week EXPO, which was held at the Tokyo Big Sight East Hall for three days from December 6 to 8, 2023.

The expo featured the latest information on next-generation technologies, products and services, CSR activities, environmental protection activities, environmental protection policies, and industry-academia-government collaboration. There were also announcements of various initiatives by companies and organizations introducing their increasingly active approaches to achieving the SDGs.

The Office of Sophia Sustainability Promotion had student staff stationed at its booth to introduce the outcomes of its initiatives.

A wide range of people visited our booth at the expo, from business people and the general public to elementary, junior high, and high school students. People from business came to hear the opinions of student staff, and we received invitations to collaborate on projects. During these three days, we felt the expansion of Sophia University's efforts and the increased recognition of the Office of Sophia Sustainability Promotion.

On the final day, December 8, student staff gave a presentation together with graduate students from the Institute for Studies of the Global Environment on the mini stage in the "Moving Future" section. The presentation introduced the background to the establishment of the Office of Sophia Sustainability Promotion and the efforts being made by student staff.



Event: Negative Capabilities for People to Live Sustainable 110-Year Lives

On the anniversary of the university's founding on November 1, 2023, we held a seminar called "Negative Capabilities for People to Live Sustainable 110-Year Lives."

This program focused on negative capability, the ability to endure uncertainty and remain skeptical, which is the opposite of the "quick problem-solving" that is required in today's world.

In the lecture component, we pointed out that many people today are addicted to efficiency, such as placing importance on productivity, cost-effectiveness, and time performance, and deepened the understanding of what negative capability is and its interpretation. Also, we raised the issue of living only with positive capability, which is the ability to process things. In the workshop that followed, participants questioned the positive capability view and formed groups for discussions challenging existing assumptions.

Participants' comments included: "I became aware of my own rigid thinking habits and realized the importance of having a flexible and broad perspective," and "The interaction between students and faculty and staff was a valuable experience."

<https://diversity-sustainability.sophia.ac.jp/information/4841/>



<https://diversity-sustainability.sophia.ac.jp/information/4979/>



Event: Sophia Christmas Square

The Office of Sophia Sustainability Promotion held Sophia Christmas Square on December 18 and 19, 2023, together with the student group nexnect and the collaborative student-faculty-led project Peer Cafe. During the event, in addition to a bazaar, food and drink sales by food trucks, and live performances, extracurricular activity groups held fundraising activities and charity bazaars, providing an opportunity for sustainability-related groups to shine.

In addition, student staff were assigned to the garbage stations and signs and other means were used to disseminate information about recycling. This led to the proper separation of container waste, which would normally be thrown away together with other garbage.



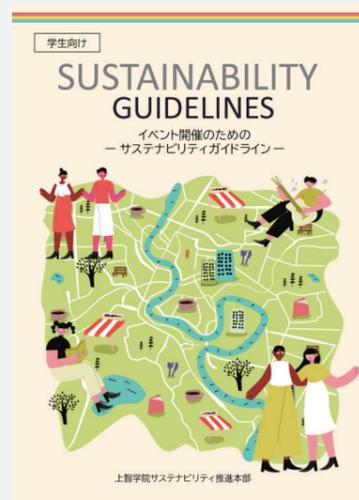
Publication of the Sustainability Guidelines for Students for Event Hosting

In January 2024, we published the Sustainability Guidelines for Students for Event Hosting.

As interest in the SDGs and sustainability grows throughout society, people are becoming more conscious of sustainability even at events that involve the movement of large numbers of people and goods and consume large amounts of resources.

Therefore, in order to ensure that meetings and events held at Sophia University are in a sustainable manner and to realize a better university, we published guidelines to serve as a guidepost. These guidelines are mainly based on the TOKYO MICE Guidelines published by the Tokyo Metropolitan Government in 2019.

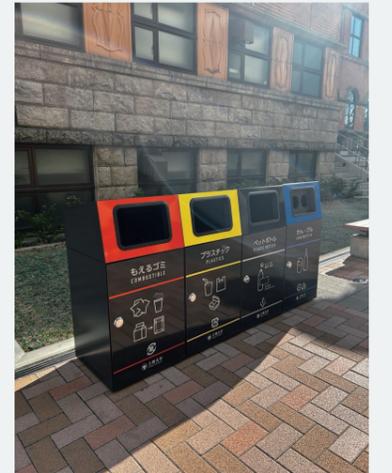
Aimed at students, the policy for realizing sustainable event hosting in student life is divided into four stages: organization, before the event, on the day of the event, and after the event, and summarized as checklist items. The aim is to disseminate this policy to students who are involved in extracurricular activities, running organizations and events individually, or who are working to realize sustainability.



Replacement of Trash Bins

We have installed trash bins with new designs on a trial basis on the first floor of Building No. 12 and in front of the pilots of Building No. 8. There are many trash bins installed both indoors and outdoors on the Yotsuya Campus, but problems arose because of the difficulty in understanding how to separate burnable trash and plastics.

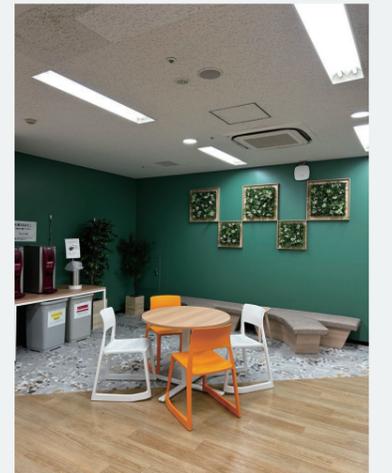
Therefore, we first considered and devised pictograms that fit student life and then placed identification marks following the Act for the Promotion of Effective Utilization of Resources on the trash bins cans, making it easier for students, the main users, to understand and separate trash. Further improvements are planned based on the reactions of students and the separation situation.



Renovation of Building No. 12 Basement Lounge

The lounge, located next to the 7-Eleven on the first basement floor of Building No. 12, has been used by many students as a space to eat, drink and study. However, because it is located underground, it is dimly lit even during the day and has also been difficult for students in wheelchairs to access.

Therefore, based on the concepts of (1) incorporating Sophia-like elements, (2) incorporating the SDGs and D&I elements, and (3) providing a space that meets diverse needs, we renovated the lounge into a bright, diverse space that is easy for a variety of people to access, even though it is underground. We proactively incorporated environmentally friendly fixtures, such as 100% recyclable chairs, flooring made from recycled materials, and tabletops made from FSC-certified materials*. We also installed desks at a height that is accessible for students in wheelchairs in some areas and ensured ample width of the aisles. The color green was used throughout, creating a refreshing, relaxing space like a tree-lined avenue.



01:待合エリア

- 従来通り 洗面所・給湯器も設置
- 100% リサイクル可能なイス
- 壁面の グリーン装飾
- 水回りの利用や コンビニの間の待合エリア
- 95%以上の什器で FSC認証木材を使用

02:多目的利用エリア

- 電源コンセント付き
- 並木道をイメージしたプリント ワシがどこかに隠れているかもー!?
- 海洋プラスチックごみを再利用したイス
- 1人で自習から複数人の飲食まで 多様なシーンにマッチするエリア
- 100% リサイクル可能なイス
- 壁面の グリーン装飾
- 95%以上の什器で FSC認証木材を使用

03:ラウンジエリア

- ☆イスは最大で6脚設置可能ですが、平常時は椅子の数を減らし、車イス利用者のスペースを確保しましょう
- エレベーターホール入り口近く 開放的なエリア
- 車イス対応OK!

*FSC certification: A system that certifies products made from forests that are responsibly managed based on standards established by the Forest Stewardship Council (FSC). Using products that are certified as environmentally, socially, and economically sustainable, meaning selecting FSC-certified products, is a choice not to contribute to environmental destruction or human rights violations.

Redesigned Tote Bags

In March 2024, we redesigned the tote bags that we hand out to new students.

Sophia University had previously used inexpensive, durable non-woven bags for new students, but there was an issue because these tote bags were only used for one day and seen as disposable.

The longer a reusable bag or tote bag is used, the less impact it has on the environment.

Therefore, student staff came up with ideas and changed the material to be more environmentally friendly, aiming to make a tote bag that people could use for a long time. We also paid particular attention to the design and asked an illustrator to draw a beautiful rendition of Sophia University's historic and symbolic Building No. 1, aiming to make a tote bag that many people would love and use.



<https://diversity-sustainability.sophia.ac.jp/en/information/5076/>

Walking and Riddle-Solving Event: Find the Missing Sofian! Sofia Campus Quest

From April 12 to 26, 2024, we held an event called Find the Missing Sofian! Sofia Campus Quest.

This event saw students walk the campus to find Sophia University's missing official mascot, Sophian-kun, using clues from riddles on the website. The event was held with the aim of getting students interested in sustainability and the initiatives of Sophia University in a broad range of areas. Participants toured facilities and spots on campus related to sustainability through solving the riddles.



In total, around 200 students participated. They became familiar with Sophia University's sustainability in a variety of ways, including making friends for the new semester, taking a break from research, and killing time during free periods.

Participants' comments included: "It was an opportunity to feel that Sophia University's efforts towards the SDGs are more familiar and natural," "As a freshman, this event gave me the opportunity to tour the university campus," and "I hope they will hold it again next year, but make it more difficult." All told the event was a huge success.

<https://diversity-sustainability.sophia.ac.jp/efforts/5456/>



Event: Wheelchair Fencing with Tokyo 2020 Paralympian

On June 9, 2024, we held an event for students to experience wheelchair fencing for themselves, inviting the special guest Shintaro Kano, who competed in the Tokyo 2020 Paralympics.

This event was planned by the Office of Sophia Sustainability Promotion and the Fencing Club with the aim of promoting understanding of minorities by allowing people to experience sports from the perspective of people with disabilities while also raising awareness of the option of parasports by giving physically disabled people who have little access to sports a chance to try para fencing. It was made possible with the cooperation of the Japan Para Fencing Association and the Tokyo Metropolitan Sports Association for the Disabled.

About 90 students, faculty and staff from the university participated in the event, enjoying para fencing regardless of disability, nationality or age. Many of the participants were inexperienced fencers, as this was their first time handling a sword. Nevertheless, they enjoyed competing against Kano regardless of their fencing experience, resulting in a valuable experience for all involved.

<https://www.sophia.ac.jp/jpn/article/news/topics/fencing0609/>



Efforts for SDGs



GOAL 1: NO POVERTY

End poverty in all its forms everywhere



UNICEF Seminar at the Osaka Satellite Campus

On October 9, 2023, Sophia University and the UNICEF Association of Hyogo Prefecture jointly hosted a seminar titled “International Cooperation and Support Paths from the Perspective of ‘Education’ - International Education with Youth.” Atsuko Nagai, Vice President for Student and General Affairs of Sophia University, introduced the University’s efforts on international cooperation and education, and Chiaki Hayakawa, who runs a school for needy children and orphans in Kibera slum in Kenya, shared her activities and experiences. Then, the Rokko Junior/Senior High School’s Social Service Committee reported on its community activities and the India Fund, which provides school fees and school meals to children in India whose parents are affected by leprosy. Finally, Rei Sudoh, an educational researcher from Timor-Leste and a graduate of Sophia University’s Department of Sociology, presented her research on education and linguistic diversity, particularly on issues with teaching languages. The seminar provided an opportunity for participants, including junior high and high school students, and educators, to deepen their understanding of the nature of international cooperation and support through educational activities.



http://www.sophia-osaka.jp/update/20231020_01.html

Exploring Ways to Solve Social Issues / Eiko Gakuen Junior and Senior High School

Eiko Gakuen offers the subject of “Information” to all first-year high school students. The class offers students the opportunity to think about how they can utilize technology to approach problems that have been difficult to solve, by participating in a study tour program planned and run by Ridilover Inc. Through this program, students learn about real social issues and gain the experience of thinking about ways to solve them. This program gives an opportunity for students to directly listen to people with social problems and those involved in solving them, and then, based on what they have seen and heard, the students work in groups to identify current obstacles, ideal situations, and solutions that can be found from the gap between the current and the ideal situations. After the program, they use their class time to turn their ideas they have come up with into possible solutions. In the program, students choose one of several themes and work on it. In 2023, they had six options: considering second chances for ex-offenders, considering poverty in our times from the stories of homeless people and their supporters, thinking about new working styles from the perspective of organizations, considering the future of massive food waste, learning about the diversification of modern-day addictions and identifying issues, and considering a society where young people in trouble can rely on others. While recognizing the challenges faced by people in various situations, students thought deeply about how they could possibly use their own ideas to address current social issues.



<https://ridilover.jp/study-tour/>



GOAL 2: ZERO HUNGER

End hunger, achieve food security and improved nutrition and promote sustainable agriculture



Agriculture Camp in Akitakata City Hiroshima Gakuin Junior and Senior High School

Students took part in a two-day camp about food held in Akitakata City.

On the first day, students learned about the issue of food loss and waste, and told that a huge amount of edible vegetables are discarded because they do not meet the standards or shape requirements. Students discussed what can be done to solve this problem with people who are actually working on the topic of food loss and waste. Then, they ate some discarded vegetables. On the second day, students visited a farm. There, they experienced harvesting, the peeling and sorting of green onions, and planting cabbage seeds. They worked hard on the green onions harvest. The peeling process involved a machine that blows air to remove damaged parts. Onions are graded from A to C depending on their quality. For the students who were new to this, it was extremely difficult to tell the difference among the types of onions. Working under the scorching sun, and covered in mud, everyone was exhausted. Throughout these two days, the students learned about the difficulties of farming and the hard work of farmers. They gained a deeper understanding of the importance of food.



<https://www.hiroshimagakuin.ed.jp/tayori/tayori-52906/>

Launched Online Course for High School Students Interested in International Cooperation

Sophia University launched an online course called “Sophia Mirai Juku” in May 2024 for high school students interested in international cooperation. In this course, nine lecturers, including current staff members of the United Nations, UNICEF, the World Bank, and the United Nations High Commissioner for Refugees (UNHCR), as well as those with extensive experience at these organizations, provide easy-to-understand explanations of the various issues facing the global community based on their own areas of expertise.

Through dialogue with high school students, these individuals will look ahead to the present and future of our changing world.

Sophia University is focusing on activities to support students and working adults who aim to build a career in international cooperation. These include career sessions related to international cooperation, the International Civil Servant Training Course, and the Emergency Humanitarian Assistance Course for those seeking a career in humanitarian aid, based on a strong network with the United Nations and related organizations. In addition, the university has held many events that high school students can participate in, such as Sophia University United Nations Weeks, where lectures, symposiums, and workshops related to international cooperation are held, but this represents the first attempt to offer a course exclusively for high school students.

Sophia University believes that it is extremely important to provide the young generation who will lead the world in the future with a forum where they can interpret the current world situation and discuss the issues facing the global community. Together with like-minded instructors, we will introduce the structure and functions of international cooperation projects to high school



students through this course and provide them with a practical learning opportunity for future career development.

<https://www.sophia.ac.jp/jpn/article/news/release/release20240325/>

Collaborating with Restaurant Chain Mr. Chicken to Raise Awareness About Chlorella Kawanishi Seminar, Faculty of Economics

In December 2023, we interviewed students from Kawanishi Seminar, led by Professor Satoshi Kawanishi of the Faculty of Economics, which aims to raise awareness of chlorella among Generation Z.

1. What is background of your activities?

A. In the Kawanishi Seminar, we engage in problem-based learning, where we work with companies as clients to solve their problems. In the course of this seminar, Chlorella Industry Co., Ltd. cooperated with us and was selected as a client. Chlorella Industry was the world's first manufacturer to commercialize chlorella in 1964 and adopted the philosophy of bringing health and well-being to people through chlorella. It engages in research and development of chlorella in the fields of people (health foods), agriculture, fisheries, and processed products. Chlorella Industry is working to solve social issues such as food shortages through food, and as part of this, we have decided to help raise awareness of chlorella.

2. What kind of activities are you carrying out?

A. We are helping to increase awareness of chlorella among Generation Z. In doing so, we are currently carrying out two activities.

The first is an official Instagram account. On this account, we first introduce what chlorella is, what effects it has on people when ingested, and so on, with the aim of making people familiar with chlorella by introducing menu ideas for incorporating chlorella into their diet in more delicious ways.

The second is the sale of a specially developed menu item with a food truck at Sophia University. In collaboration with restaurant chain Mr. Chicken, the food truck sells green curry containing chlorella. The purpose is to get people to actually try it and convey to them that adding chlorella to their meals does not change the taste and can also provide them with more nutrition than usual. We aim to increase sales of this green curry in the future.

3. Are there any SDGs that you are aiming to help achieve or that you are contributing to? Why?

A. By spreading the word about chlorella, which improves people's health, we hope to improve the nutrition of not only young people but also the entire Japanese population and the world in the future, which will also contribute to SDG 3 Good Health and Well-being. In addition, since chlorella contains a large amount of nutrients such as protein and vitamins, we also hope to aim for its role in SDG 2 Zero Hunger.

4. What is your target going forward?

A. We aim to raise awareness of chlorella among Generation Z, and at this stage, our goal is to help Sophia University students become healthier through food. Chlorella is very well known among people in their 30s and 40s and above, but the current situation is that many Generation Zers do not know what chlorella is or even heard of it at all. Therefore, by appealing to young



people here and now about chlorella, we hope to raise health awareness and improve health going forward, while also encouraging future purchases. In summary, our goal is to get people who do not know about chlorella to learn about it and become healthier.

5. Do you want to share a message with readers?

A. We want to convey that chlorella is rich in nutrients and can be consumed at an affordable price. Chlorella contains a rich and well-balanced amount of nutrients such as vitamins, minerals, essential fatty acids, dietary fiber, and chlorophyll. There is also data that shows that its nutritional value is about 10 times that of green and yellow vegetables, and its amino acid score is 100. It is also useful as a substitute for green and yellow vegetables, which tend to be lacking in the diet of people today. By incorporating chlorella into your diet, you stand to gain various positive effects. First of all, chlorella's unique green color can give food a vibrant green color by adding it to, for example, pastas and curries. And since adding chlorella does not change the taste significantly, you can easily consume the nutrients mentioned above by simply adding a small amount to your regular meals. In this way, there are various benefits to consuming chlorella. People can expect to improve their health by just adding a little to their regular meals. We hope that more people will become interested in chlorella.

Instagram: https://www.instagram.com/sophia_kwms_chl/
<https://diversity-sustainability.sophia.ac.jp/efforts/4800/>

Sophia Institute for Human Security (SIHS)

Sophia Institute for Human Security (SIHS) was established for the purpose of researching human security through social science. It was subsidized by the MEXT's "Private University Research Branding Project" and launched as a Research Unit in the Project Research Division at Sophia University in 2017. In July 2022, the institute received the ORION fund and switched to Affiliated Research Organizations.

[Activities]

SIHS considers poverty, environment, health care, immigrants and refugees, and peacebuilding as the five important human security issues in an international society.

We will work on the realization of human security through academic research by becoming an international center of excellence that designs effective policies and institutions to solve these problems using social science research methods. Our research division consists of five units: poverty, environment, health care, immigrants and refugees, and peacebuilding. The developing regions of Africa, Southeast Asia and South Asia are our main research fields. The following are the basic policies which SIHS considers essential to realize human security:

- To tackle the realization of human security through the research results of social science.
- To promote research based on local circumstances and problems while working in collaboration with local researchers.

<https://dept.sophia.ac.jp/is/sihs/eng/>



(UN Photo / JC McIlwaine)



GOAL 3: GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages



Applied research on environment and health using machine/deep learning and big data

Sumiko Anno, Professor

Graduate School of Global Environmental Studies, Master's (Doctoral) Program in Global Environmental Studies

[Abstract]

Our research contributes to crisis management of emerging and reemerging infectious diseases using big data such as satellite data, human location data collected by IoT sensors and devices, and behavioral history data, as well as machine and deep learning.

[Related Patents / Papers]

Sumiko Anno, Hirakawa Tsubasa, Satoru Sugita, Shinya Yasumoto, Ming-An Lee, Yoshinobu Sasaki & Kei Oyoshi (2023) Challenges and implications of predicting the spatiotemporal distribution of dengue fever outbreak in Chinese Taiwan using remote sensing data and deep learning, *Geospatial Information Science*, DOI: 10.1080/10095020.2022.2144770

Anno S, Hirakawa T, Sugita S and Yasumoto S (2022) A graph convolutional network for predicting COVID-19 dynamics in 190 regions/countries. *Front. Public Health* 10:911336. doi: 10.3389/fpubh.2022.911336

Anno S, Hara T, Kai H, Lee MA, Chang Y, Oyoshi K, Mizukami Y, Tadono T. Spatiotemporal dengue fever hotspots associated with climatic factors in Taiwan including outbreak predictions based on machine-learning. *Geospat Health*. 2019 Nov 6;14(2). doi: 10.4081/gh.2019.771. PMID: 31724367.

Sumiko Anno, Yoshitsugu Kimura, Satoru Sugita, Using transformer-based models and social media posts for heat stroke detection, *Scientific Reports*, 15(1), Jan 4, 2025

<https://sophia-seeds.jp/en/seeds/671/>



Structure-Based Design of Nucleic Acid Drugs

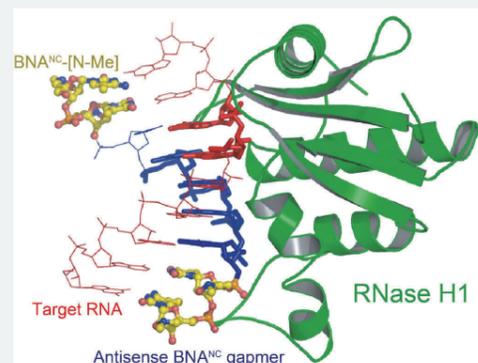
Jiro Kondo, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

Nucleic acid drugs are attracting attention as the third generation of medicines following small molecule drugs and biopharmaceuticals (protein drugs). They can act not only on proteins, which are the target of about 95% of commercially available drugs, but also on nucleic acids (DNA and RNA), which have not been widely recognized as drug discovery targets until now. Therefore, nucleic acid drugs are expected to serve as therapeutic agents for intractable diseases and viral infections. In our laboratory, we are working on the development of new drugs by using the Structure-Based Design method, which has been used in the development of small molecule drugs, for the design of nucleic acid drugs.

We are the only X-ray structural biology laboratory in Japan that specializes in nucleic acids. We provide highly accurate three-dimensional structural information by making full use of the nucleic acid molecular crystallization method and structural analysis method that we have developed independently. We also take advantage of our know-how regarding the three-dimensional structure and interactions of nucleic acids to design nucleic acid drugs such as ribozymes (nucleic acid enzymes) and aptamers (nucleic acid antibodies).



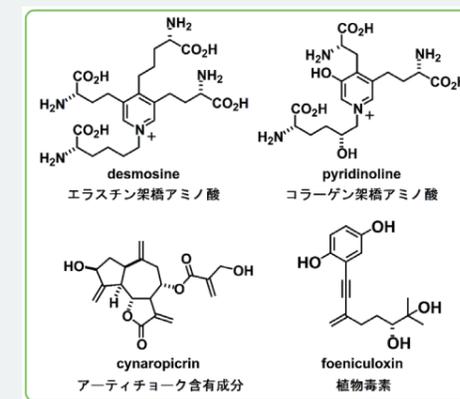
Chemical Medicine using Bioactive Natural Organic Compounds

Toyonobu Usuki, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

Natural products chemistry is an academic field that studies biologically active organic compounds (natural products) which exist in nature. Natural products are substances that have survived natural selection since Earth's beginning and therefore have extremely complex structures and extremely potent biological activity. The search for unknown compounds and their unique structures that pose challenges in synthetic chemistry have attracted the interest of many scientists. These advanced research projects have contributed greatly to the development and creation of new pharmaceuticals, pesticides, fragrances, etc. Our laboratory is conducting various research projects related to natural products chemistry and chemical medicine.



[Specific Examples]

- Development of efficient extraction method for biologically active natural organic compounds contained in plant leaves

[Specific Examples]

- Development of antisense nucleic acid drugs
- Development of aptamers (nucleic acid antibodies)
- Development of ribozymes (nucleic acid enzymes)

[Future Prospects]

Nucleic acid drugs developed until now have been limited to antisense nucleic acids and miRNAs designed based on base pair complementarity, along with aptamers discovered using a molecular evolution method called the SELEX method. Using the Structure-Based Design method makes it possible to develop new types of nucleic acid drugs.

[Research Facilities and Equipments]

Equipment for crystallization, computers for structure analysis, temperature-controlled UV-visible spectrophotometer, fluorometer, intermolecular interaction analysis device, nucleic acid molecule crystallization method (proprietary), and nucleic acid molecule structure determination method (proprietary)

[Collaboration with External Organizations]

We design new nucleic acid drugs based on three-dimensional structure information. We also supply highly accurate three-dimensional structure information of developed nucleic acid drugs. We look forward to collaborating with you on the pharmacological analysis of nucleic acid drugs.

[Related Patents / Papers]

<Paper>Jiro Kondo et al., "Crystal structure of 2',4'-BNANC[N-Me]-modified antisense gapmer in complex with the target RNA" *Chem. Commun.*, 52, 2354-2357 (2016).

<Review>Kondo, Jiro, "Design Technology of Nucleic Acid Drugs based on Three-dimensional Structure Analysis," *Bioindustry Monthly*, 35, pp. 56-64, 2018.

<Review>Kondo, Jiro, "Structure-Based Design of DNA Nanomedicine," *Chemical Industry Monthly*, 67, pp. 28-36, 2016.

<https://sophia-seeds.jp/seeds/257/>

- Establishment of a biomarker diagnostic method by quantitative analysis of crosslinking amino acids in elastin and collagen
- Research of total synthesis of biologically active natural organic compounds

【Future Prospects】

It is expected that progress will be made in natural products chemistry for the development of new drugs and diagnostic agents targeting lifestyle diseases, research into the total synthesis of natural organic compounds, and the establishment of methods for obtaining useful components from nature using environmentally friendly solvents.

【Research Facilities and Equipments】

Infrared spectroscopy (JASCO), high-performance liquid chromatography (JASCO, Shimadzu), polarimeter (JASCO), ultraviolet-visible spectroscopy (JASCO), liquid chromatograph-tandem mass spectrometer (Shimadzu), rotary evaporator (Yamato Scientific), convenience evaporator (Biochromato), gas chromatograph-mass spectrometer (Shimadzu, shared equipment), nuclear magnetic resonance spectroscopy (JEOL, shared equipment), mass spectrometer (JEOL, shared equipment)

【Collaboration with External Organizations】

- Establishment of a highly efficient method for extracting natural organic compounds contained in plant leaves
- Establishment of novel diagnostic methods using biomarkers for diseases associated with elastin degradation
- Research on collagen crosslinking amino acids

【Related Patents / Papers】

- “Manufacturing method of desmosine and isodesmosine” Patent 7020669
- “Extraction method of terpenes” Patent 6981644

Akane Yamagishi, Yuki Egoshi, Makoto T. Fujiwara, Noriyuki Suzuki, Tohru Taniguchi, Ryuuichi D. Itoh, Yumiko Suzuki, Yoshiro Masuyama, Kenji Monde, Toyonobu Usuki “Total Synthesis, Absolute Configuration, and Phytotoxic Activity of Foeniculoxin” *Chemistry – A European Journal* 2023, 29, e202203396.

Mika Hirose, Toyooki Kobayashi, Nao Tanaka, Ayame Mikagi, Hiroshi Wachi, Yuki Mizutani, Toyonobu Usuki “IsoChichibabin Desmosine-¹³C₃,¹⁵N₁ Synthesis and Quantitative LC-MS/MS Analysis of Desmosine and Isodesmosine in Human Skin” *Bioorganic & Medicinal Chemistry* 2021, 52, 116519.

Tenma Nakamura, Dinda B. Pitna, Kogaku Kimura, Yukiko Yoshimoto, Tomoya Uchiyama, Takaya Mori, Ryosuke Kondo, Shihori Hara, Yuki Egoshi, Shoya Yamaguchi, Noriyuki Suzuki, Yumiko Suzuki, Toyonobu Usuki “Total Synthesis of Cynaropicrin” *Organic & Biomolecular Chemistry* 2021, 19, 6038-6044.

Nao Tanaka, Manami Kurita, Yuko Murakami, Toyonobu Usuki “Chichibabin and IsoChichibabin Pyridinium Syntheses of Isodesmosine, Desmosine, and their Derivatives” *European Journal of Organic Chemistry* 2018, 21, 6002-6009.

Usuki, T. Yasuda, N. Yoshizawa-Fujita, M. Rikukawa, M. “Extraction and Isolation of Shikimic Acid from Ginkgo Biloba Leaves Utilizing an Ionic Liquid that Dissolves Cellulose” *Chem. Commun.* 2011, 47, 10560-10562.

<https://sophia-seeds.jp/seeds/225/>



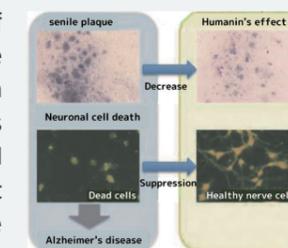
Understanding disease pathomechanism based on cell survival factors and its application

Takako Niikura, Professor

Faculty of Science and Technology, Department of Information and Communication Sciences

【Abstract】

Humanin is a 24-residue peptide factor identified as an inhibitor of neuronal cell death in Alzheimer’s disease, a major neurodegenerative disorder. Humanin suppresses amyloid-beta-induced neuronal cell death in vitro, which plays a central role in the pathogenesis of Alzheimer’s disease. Highly potent derivatives obtained through amino acid substitution exhibit complete neuronal cell death inhibitory activity at concentrations of 1-10 nM. Furthermore, studies in my laboratory have shown that a highly potent derivative improves memory impairment in Alzheimer’s disease model mice and reduces amyloid-beta accumulation in the brain. Currently, our laboratory is analyzing the detailed mechanisms of various actions of Humanin.



【Specific Examples】

Humanin has also been reported to improve pathological conditions in model animals of brain ischemia and diabetes, in addition to Alzheimer’s disease. In vitro experimental results suggest that it may be effective against many other diseases, including prion diseases.

【Future Prospects】

Given the properties of Humanin described above, the development of Alzheimer’s disease therapeutics targeting Humanin peptides themselves or molecules involved in their mechanisms of action is anticipated. Recent research has revealed that diabetes and Alzheimer’s disease are involved in synergistic disease progression, suggesting that Humanin may be effective against such complex conditions. Additionally, it has been reported that the amount of Humanin in the blood of humans and mice decreases with aging, indicating a correlation with the progression of aging. By analyzing which molecules in the body are targets of Humanin’s action, we expect to elucidate the pathogenesis of diseases and find clues for developing more effective treatments, diagnostics, and preventive measures.

【Research Facilities and Equipments】

Cell culture-related equipment, confocal laser microscope, fluorescence microscope, cryostat, general molecular biological analysis, general biochemical analysis, mouse memory learning tests.

【Collaboration with External Organizations】

Development of Humanin-like molecules, exploration of cell death inhibitory factors in other diseases, analysis of mechanisms of action, establishment of detection methods for Humanin and similar molecules in vivo, and application to the detection of Alzheimer’s disease progression. Analysis of the effects of biologically derived functional molecules and synthetic small molecules on neuronal cells and mice.

【Related Patents / Papers】

Niikura T. Humanin and Alzheimer’s disease: The beginning of a new field. *Biochim Biophys Acta Gen Subj.* 2022; 1866(1):130024.

Ikegawa N, Kozuka A, Morita N, Murakami M, Sasakawa N, Niikura T. Humanin derivative, HNG, enhances neurotransmitter release. *Biochim Biophys Acta Gen Subj.* 2022;1866(10):130204.

Murakami M, Nagahama M, Maruyama T, Niikura T#. Humanin ameliorates diazepam-induced memory deficit in mice. *Neuropeptides*, 2017; 62:65-70.

Niikura T, et. al. A Humanin derivative reduces amyloid beta accumulation and ameliorates memory deficit in triple transgenic mice. *PLoS ONE*, 2011; 6: e16259

Niikura T. Humanin, a potential peptide for neuroprotective therapy against Alzheimer’s disease. *Expert Opinion on Drug Discovery*, 2007; 2: 1273-1282

Nishimoto I, Matsuoka M, Niikura T. Unravelling the role of Humanin. *Trends Mol. Med.* 2004; 10: 102-106

<https://sophia-seeds.jp/seeds/627/>



GOAL 4: QUALITY EDUCATION

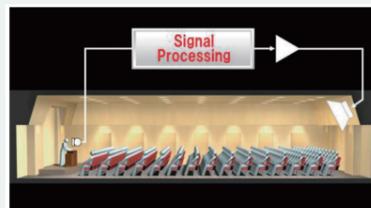
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Speech Communication

Takayuki Arai, Professor

Faculty of Science and Technology, Department of Information and Communication Sciences



【Abstract】

Research is mainly in the speech communication field but extends to any field related to acoustics and speech (e.g., linguistics, speech and language pathology, psychology, social welfare, education, and musicology), so we do interdisciplinary research.

Selected topics:

- 1) education in acoustics (e.g., physical models of human vocal tract),
- 2) acoustic phonetics,
- 3) speech and hearing sciences,
- 4) speech production,
- 5) speech analysis and speech synthesis,
- 6) speech signal processing (e.g., speech enhancement),
- 7) speech / language recognition and spoken language processing,
- 8) speech perception and psychoacoustics,
- 9) acoustics for speech disorders,
- 10) speech processing for hearing impaired,
- 11) speaker characteristics in speech, and
- 12) real-time signal processing using DSP processors.

【Related Patents / Papers】

<https://doi.org/10.21437/Interspeech.2021-449>

<https://sophia-seeds.jp/en/seeds/773/>

Okinawan families

Yosuke Takeda, Professor

Faculty of Economics, Department of Economics

A theoretical model of the principal-agent relationship in organisations is developed for the succession of businesses between relatives, and is analysed empirically using an Okinawan family as a case study. Conduct a detailed questionnaire survey in cooperation with associations of commerce and industry and federations in Okinawa to obtain data.

<https://sophia-seeds.jp/seeds/184/>



Exhibition Aiming to Create Opportunities to Learn About Okinawa's Ocean and Culture

Yuka Mizutani, Professor

Center for Global Education and Discovery

【Abstract】

Among tourists who enjoy marine leisure activities in Okinawa's seas, there are some who do not have the opportunity to learn more about Okinawa's culture. The purpose of this exhibition is to create an opportunity for these tourists to learn about Okinawa's natural environment and culture as a whole by visiting local museums and historical sites, or by reading books. This activity was held at a space kindly offered by Marine Service Famille (Naha City, Okinawa Prefecture). This company provides scuba diving license courses, supports marine training at educational institutions, and conducts diving tours.

Last academic year, we held an exhibition on the nature and history of the waters from the southwestern part of Okinawa's main island to the Kerama Islands. Based on the comments of those who viewed the exhibition, this year, I created posters showing terms related to the sea and marine life in the Ryukyuan/Okinawan language, aiming to increase interest in this local language among visitors. In addition, we set up a new corner where visitors could learn while touching traditional crafts made from coral fossils and samples of rocks made from coral. We also interacted and talked with local citizens through a public lecture held at the Ginowan City Museum.

【Future Prospects】

In the future, I would like to not only use my research in exhibitions but also incorporate the knowledge I have gained through actual exhibitions in academic research. With the cooperation of Marine Service Famille, we have launched an organization called Famille for Nature Conservation with the aim of connecting research and outreach activities on the natural environment and culture with businesses and citizens. Currently, about 10 members of this organization work as volunteers, and I provide advice based on my academic research. Through the efforts of Famille for Nature Conservation, I would like to continue thinking about giving back to society the results of my research and collaboration with companies and civic groups.





Translating UNESCO “Futures of Education”

Hideki Maruyama, Professor
Faculty of Global Studies, Department of Global Studies

[Abstract]

The United Nations Educational, Scientific and Cultural Organization (UNESCO) published the report, titled “Reimagining Our Futures Together: A new social contract for education” in November 2021. This is the latest UNESCO’s report. There have been two UNESCO reports that have had a global influence before this report. The first “Learning to Be,” known as the Faure Report, was published in 1972 and popularized the concept of lifelong learning, which stresses being and becoming oneself throughout one’s life rather than learning to own something. In 1996, the second report “Learning: The Treasure Within” or so-called Delors Report presented the four pillars of learning: learning to know, learning to do, learning to live together, and learning to be. Learning in the twenty-first century is about more than just obtaining knowledge and increasing skills; it is also about learning in the real world, learning to live with others, and learning to be oneself. This “Futures of Education” report goes a step further, referring to “unlearning,” and emphasizes the importance of learning to live in harmony with nature as part of life on Earth, to cooperate and collaborate with diverse stakeholders, and to participate in society as lifelong learners toward a sustainable future. This report is distinct in that it emphasizes that we construct our own future, the year 2050, unlike the Faure and Delors reports that gave model answers. In other words, this report demonstrates that each of us plays a significant role in shaping the future.



[Future Prospects]

After coordinating with UNESCO headquarters, a team of Sophia University students, alumni, volunteer teachers, and volunteer scholars are hard at work on the Japanese translation, which will be published by the University of Tokyo Press in the spring of 2025.

<https://www.unesco.org/en/futures-education>

The Role of the Junior College Division’s Service-Learning Activities as ESD

Sophia University Junior College Division began teaching Japanese to local foreign residents and their children in the residents’ homes in 1988 (currently the location has shifted to community centers for Japanese language and subject support activities). It continues to provide support in the form of regular curriculum training and volunteer work as part of service-learning (SL) activities that combine off-campus learning through social participation and practice, with on-campus learning such as classes.



The Junior College Division celebrated its 50th anniversary in 2023. The second part of the ceremony featured a keynote speech by Professor Miki Sugimura of the Department of Education, Faculty of Human Sciences, Sophia University, along with a panel discussion by graduates and current students on the theme of “Sophia University Junior College Division’s Initiatives for the SDGs.”

In her lecture, Professor Sugimura explained the role of education in achieving the 17 SDGs, the characteristics of Education for Sustainable Development (ESD), the role of Sophia University Junior College Division’s SL activities in ESD, and the future of education. ESD refers to education that develops leaders who will create a sustainable society and is a learning activity that aims to

generate values and actions that lead to problem solving by taking ownership to tackle various global issues. Professor Sugimura praised the fact that the Japanese language and subject support activities of the Junior College Division began before the SDGs and ESD became an international agenda. She finds that through the regional collaboration with Hadano City, these activities have become the foundation for creating a sustainable, inclusive and fair society in which no one is left behind and have realized Sophia’s mission of high-quality education that protects human dignity.

In the panel discussion that followed, the participating alumnae and current students shared stories about their experiences with SL activities. This reaffirmed that they learned a great deal while providing support, and that the experience they gained through the activities is connected to their current efforts to contribute to society.

Student-organized support program for “kyodaiji”

Mitsuru Hisata, Director
Institute of Inclusive Community

It is unclear when this began, but in Japan, brothers and sisters of children with disabilities or serious illnesses began to be called “kyodaiji” and became eligible for support. Siblings are sometimes thought of by their parents as “good children who are easy to care for” because they are responsible, caring, and not selfish. However, research in Europe and the United States has revealed that they actually suffer from many difficulties in life, such as loneliness due to lack of attention from parents, putting up with everything, and being forced to take care of disabled siblings and help with housework in place of their parents. With the goal of helping such siblings regain their sense of self even if only for a short time and releasing them from the tension at home, we have been holding summer camps with students from Sophia University as one of the practical activities offered by the Institute of Inclusive Community.



In academic year 2024, the summer camp was held for three days from August 10th to 12th at a lodging facility in northern Tochigi Prefecture. I attended along with 15 children and their friends (ages 4 to 12), 31 Sophia University students, three nurses, six alumni, and one researcher. In total there were 42 adults, including university students, and 15 children. We aim to achieve the above objectives using close to three times as many adult staff as children.

Why are there so many adults? The answer lies in the following: 1) one or more students pair up with each child; 2) rules and restrictions are eliminated as much as possible and most wishes are granted; and 3) students other than the paired students plan and implement the three-day program. A campfire is a must, but this year we entertained the children with watermelon smashing, fireworks, and, with the theme of “Ennichi” (festival), activities such as making yakisoba and scooping goldfish. Also, 4) experienced nurses accompany the children and are responsible for their well-being. The camp was held during record-breaking high temperatures and some children fell ill, but the nurses’ quick response prevented anything from becoming serious.

After the three-day camp, we received the following feedback from parents:

“I’m sure they often feel confined, but at this camp they looked really happy to get lots of attention from their older brothers and sisters [the Sophia University students].” “They happily read the messages from the [Sophia University] students. They talked a lot about the camp at school, too. It’s become their best memory of this summer vacation.” “They roasted marshmallows, played in the water, talked about crushes in the girls’ room—it all seemed fun. They cried and said they wanted to play some more. Just like last year, they’re still missing summer camp.” There are many challenges to overcome, but this is an activity we hope to continue for as long as possible.



GOAL 5: GENDER EQUALITY

Achieve gender equality and empower all women and girls



Empirical Analysis of Difficulties during Family Formation through Large-scale Continuous Family Survey

Rokuro Tabuchi, Professor

Faculty of Human Sciences, Department of Sociology

[Abstract]

This large-scale continuous family survey refers to the National Family Research of Japan (NFRJ), a nationwide survey planned and administered by the NFRJ Committee of the Japan Society of Family Sociology. Since the first survey was conducted in 1998, three main surveys and related surveys have been conducted. This research uses the previous surveys, and the fourth survey conducted from January to April 2019 and compares the results with past survey results that can be compared chronologically. The objective is to understand the current state and structure of families in Japan, which are rapidly changing, and also use this information to help formulate future family policies.

[Specific Examples]

The fourth survey collected various data on family structure, family relationships, and attitudes toward family. By analyzing this data, we can understand the needs and challenges that families face. Based on this, we may be able to create new business opportunities by developing and providing services for individuals and families. Specifically, the following can be considered.

- *Services that facilitate family communication
- *Services that support family lifestyles
- *Nursing care support services
- *Childcare support services

[Future Prospects]

Secondary analyses will be conducted using data from the fourth survey.

[Collaboration with External Organizations]

By clarifying changes in family and intergenerational relationships in a society with changing demographics, we can understand people's characteristics and needs, which can be useful in formulating policies, developing new products and services, and creating marketing strategies. Looking ahead, I hope to conduct joint research with companies, collaborate with local governments and government agencies, and work with social welfare and educational institutions.

[Related Patents / Papers]

Family sociology in Japan: Recent developments and the current state of the field, Rokuro Tabuchi

INTERNATIONAL SOCIOLOGY 36(2) 231-242 March 2021

<https://sophia-seeds.jp/seeds/1019/>

LGBTQ+ - themed film festival on sexual diversity

Sophia PRIDE Film Festival, was held from June 18 to 27 to reassure sexual minority parties and foster understanding among non-participants.

Every June is "Pride Month," a time when sexual diversity is celebrated and respected around the world. In order for every student, faculty and staff member to be able to be who they are and for Sophia University to be a place that is important to all its members, the University understands and respects various differences in sexual orientation, gender identity and expression, as well



as race, gender, age, religion/belief, and ideology, The University promotes Diversity, Equity, Inclusion, and Belonging (DEI&B) to understand and respect differences in sexual orientation, gender identity, and gender expression, as well as race, gender, age, religion, faith, and thought. As part of this effort, this film festival was planned last year by the members of the "Research on the Promotion of Understanding of Sexual Diversity and Environmental Improvement for LGBTQ+ People: Creating a School and Work Environment that Does Not Deny the Differences of SOGI," a collaborative innovation research project between faculty and staff, and this year was the second time the Diversity Promotion Office of Sophia University hosted the festival. This year's event was the second to be held under the auspices of the Diversity Promotion Office of Sophia University.

During the festival, four films were screened that examined sexual diversity from various perspectives. To help participants better understand the films and their themes, commentary was provided before and after the screenings by Sophia University faculty and staff, as well as by specialists who actually provide support for minorities.

On the first day of the festival, "Little Girl," a film about a transgender girl and her family's struggle to have her individuality accepted by those around her, which should be a normal and acceptable thing, was screened. Ms. Arai, from the Center for Student Affairs, nominated the film, emphasized that the main character's good fortune for the girl is to have the greatest understanding, in her case, her family by her side. "When you don't know how to deal with minority parties, you may rely on your conventional norms to prevent your own confusion and become narrow-minded towards others. You may become narrow-minded toward others, relying on your traditional norms to prevent your own confusion. Through this film, I feel that we can create a society that makes life easier for everyone and ourselves by once again considering what influenced our own norms of what we think should be done," he said, stressing the importance of respecting and leaning on diversity.

On the final day, the film "The Case Against 8" which follows the trial over same-sex marriage in California, U.S.A., was screened. Before and after the screening, Professor Makiko Deguchi of the Department of English in the Faculty of Foreign Studies took the stage as a commentator, explaining the historical background of same-sex marriage in the U.S. and the current situation in Japan. "There are already more than 30 countries where same-sex marriage has been legalized, and no damage has been reported as a result of same-sex marriage. I hope that action on same-sex marriage will become more active in Japanese society as well," she concluded. In promoting understanding of minorities, the audience was reminded of the possibility of negotiating with society based on evidence obtained from overseas precedents and historical backgrounds.

Ms. Eguchi, a staff member of the Office of Global Education and Collaboration, who planned this event, said, "We chose each of the works with the hope that Sophia University would be a safe place for the parties involved. Some of the participants were able to learn for the first time about the current situation of those affected. We are happy if the films provided an opportunity for them to think about the situation. Holding the film festival is just one of the actions we have taken. I believe that we need to continue to take action to reassure the people involved and to foster understanding among the non-participants.

Screening List

Little Girl

Sasha, a 7-year-old girl who is not recognized as a "girl," and her mother who wants to protect her child's freedom and happiness. This heart-wrenching documentary depicts one family's "non-negotiable battle".

Rainbow-colored Cross: The Story of a Pastor

This film was produced by a student in the Newspaper Department of the University and won the grand prize in the "Young



Reporter Competition” sponsored by the International Committee of the Red Cross in 2018 as an excellent video documentary reported by the younger generation. The screening of the film was accompanied by a lecture by Pastor Yoshimoto Nakamura of the Christian Church of Japan, who also officiated weddings and activities for LGBTQ+ people that were featured in the film.

ANY DAY NOW

A gay couple meets an abandoned Down’s Syndrome boy, and a series of absurd events strike the three of them when they are supposed to have a happy moment. It is a human drama with a mixture of sadness and frustration that the times had not caught up with them.

The Case Against 8

Backlash in California, where same-sex marriage was recognized, led to the banning of same-sex marriage again in November 2008. This documentary film covers the five-year struggle of two same-sex couples who filed a lawsuit against this ban.

<https://www.sophia.ac.jp/jpn/article/news/topics/lgbtq240705/>

30% Club Japan University Group Announces Commitment

The 30% Club is a global campaign launched in the U.K. in 2010 to increase the percentage of women in key decision-making positions in companies, including the board of directors. It is active in more than 20 countries, and the 30% Club Japan was established in 2019.

Sophia University joined the 30% Club Japan University Group in June 2021, and has been promoting educational and awareness-raising activities in order to advance gender diversity in the areas of education, research, and social contribution. In February 2024, the top leaders of the University Group announced their Commitment to articulate specific goals for Gender Diversity in University Management along with a roadmap for its realization.

In this Commitment, we acknowledged Sophia University’s long-standing tradition of embracing diversity. This tradition originated with Jesuit priests hailing from different countries such as Germany, France, and the UK, and we recognize this as a challenge that we must continue to address in the future. We also presented data as of May 2023, indicating that the proportion of female faculty members is around 40%, while the proportion of female professors and associate professors is equally significant, reaching 30%, as a result of various support measures implemented so far. We emphasized on the importance of involving individuals from diverse backgrounds participate in decision-making and university administration, as well as in the development of the next generation of leaders.

The Grand Layout 3.0, which began in fiscal 2023, clearly states the promotion of DEI&B and support for young researchers and female researchers who will contribute to the global society. We aspire to broaden the education and work environments in accordance with the Annual Operating Plan.



Sophia Diveristy Week 2023

The Office for the Promotion of Diversity (currently the Office for the Promotion of Diversity and Sustainability) has designated the period from November 25, National Day for the Elimination of Violence against Women, to December 10, International Human Rights Day (including December 3, National Day of Persons with Disabilities) as Sofia Diversity Week, and holds various events every year. The year 2023 marks seventh year that students and faculty have worked together to create an inclusive society that embraces diversity. This time, seven events were held, both online and in person.

Among these events, the three planned by the student executive committee were all held with the goal of having participants “think together” and “think through experience” about diversity. Each event had a single theme and included workshops, lectures by experts, and discussions.

Members of Gender Equality for Sophia (GES), a student group working on gender and sexuality issues, participated in the student event titled “Period: Thinking Together for the Future of Society - Period Poverty” held on November 27. They explained the various “negatives” in the world related to menstruation, not just the economic aspects of women, and introduced efforts to solve these issues. Lively discussions took place in the group work corner. Participant comments included: “It’s important to have an attitude of wanting to learn,” and “I want you to start today and get those around you involved and take action.” This shows that the event was a valuable opportunity to think about this topic as a major issue for society as a whole, regardless of gender.

On the same day, the Department of Psychology of the Faculty of Human Sciences organized an event titled “Thinking About Peer Pressure: Then I’ll do it too,” which featured student participation and a lecture by Professor Masataka Higuchi of the same department. Professor Higuchi touched on “resisting pluralistic ignorance,” saying, “If you don’t take action, other people will think, ‘Oh, that’s fine.’ Let’s understand the importance of the role we play.” Over 20 participants shared their valuable time thinking about how to strike a balance between being considerate of others and valuing their own opinions.

On December 7, the highlight of this year’s event took place, a talk event featuring Buddhist monk, make-up artist and LGBTQ activist Kodo Nishimura, and world-famous model Ai Tominaga, who is active in charities and social contributions. They talked about diversity and living as you are. When the two took to the stage, loud applause rang out throughout the venue. The two then talked about various topics, such as “What has been on your mind lately?” “What are your difficulties and fun experiences abroad?” and “What about fashion and make-up?” This was capped off with a Q&A session with students.

Nishimura spoke of his hope for a future where people can connect with and have fun with a wide variety of people, saying, “The most important point about diversity is that you can make friends or find friends who want to be and are waiting with a variety of people.” Tominaga also presented a warm message to the participants who filled the venue, saying, “Diversity is very important for the future of Japan. Of course, it is necessary for the older generation to change, but I believe that if your generation embodies diversity, Japan’s future will certainly change. I want Japan to be a place where people can clearly say that they like what they like, from fashion and makeup to religion.”

In addition, during the event, diversity issues were addressed in a variety of ways. This included projects to understand issues related to discrimination and consider solutions and events where people could experience the difficulties they face in their daily lives, such as chronic illnesses and allergies.



<https://www.sophia.ac.jp/jpn/article/news/topics/20231222diversity/>



GOAL 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all



Improving Horikawa River Water Quality through Agricultural Facilities

Mikiko Sugiura, Professor

Center for Global Education and Discovery/ Graduate School of Global Studies



The Horikawa River, which has been a symbol of the region since Nagoya's founding, is an artificial river with no self-flow. Improving the river's water quality has been an issue since the Taisho period, when urbanization and industrialization rose to prominence. The series of activities carried out by so many groups and organizations, to the point where people say, 'There is no other river with this much civic activity,' has become a source of pride for the region.

Dilution by increasing the flow rate has been the most used method for improving water quality for many years. The effectiveness was confirmed by a three-year "social experiment" that began in 2007, followed by two-year observations, and these outcomes have been carried forward into current activities as community-level initiatives.

In this study, while using the flow rate of 0.4m³/s as a guideline, I examined methods of securing water flow through existing agricultural facilities for utilizing regional resources, with the aim of achieving further water quality improvement. The flow from the Kiso River to the Horikawa River has been used since the 17th century, maintaining continuity with the the Kottsu-yōsui and Shin-kottsu-yōsui, with an accompanying history of the use for navigation. These present precisely the valuable backgrounds that make it possible to manage and control river basins through the 'collaboration' of stakeholders in basin flood control, Ryūiki-chisui.

On the other hand, this trial proposal also revealed collaboration challenges due to the involvement of many stakeholders. Payment for the use of agricultural facilities is theoretically possible through precedents of 'drainage fees' (during the irrigated period) from related municipalities and the establishment of environmental water rights (during the non-irrigated period). At the same time, we cannot overlook the point that careful consensus-building is necessary for a common understanding of regional resources and social implementation.

As long as various challenges serve as a foundation for fostering opinions among stakeholders and community-level initiatives continue, there is no doubt that the water quality improvement efforts in the Horikawa River will remain a leading example of substantiating 'collaboration' in the water management context.



Photo.1 朝宮公園（八田川との合流地点手前）を流れる新木津用水（筆者撮影 2016年3月）



全体図：国土地理院地図に筆者加筆改訂
部分略図：資料と現地調査より筆者作成
Fig. 1 木曾川からの幹線水路と河川の位置関係
（「農業水利施設を介した堀川の水質改善に関する試案と課題」（杉浦・田島, 2024）（2024年12月掲載予定）より引用）



Approach to the biomaterial and biosensing by using functional polymers

Yuko Takeoka, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

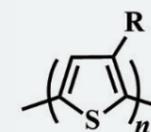
One of the main research themes of our lab is about synthesis and characterization of functional polymers, and we focus on the development of materials suitable for the biomedical field. For example, the development of DNA detectable conjugated polymers, artificial bone materials and scaffold materials by using biodegradable polymers.

Sensing of DNA and biomolecules by using water-soluble polythiophene derivatives

Polythiophene polymers

Polythiophene derivatives show absorption and fluorescence in the visible region. These absorption and fluorescence can be varied easily and sensibly against external stimuli (Figure). These properties are also tunable by using various kinds of side chains attached to polythiophene main chains. In our lab, we developed DNA and bacteria-detectable water-soluble polythiophenes. Some polythiophene derivatives show high sensitivity to DNA which has special sequence of base and gram-positive bacteria. We are now trying to use these polymers for biomedical applications.

Polythiophene derivatives



• π -conjugated polymer

• Excellent optical and electrical properties

Tunable properties using side chains



<https://sophia-seeds.jp/seeds/298/>



GOAL 7: AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all



Organic reactions in water using thermoresponsive micelles

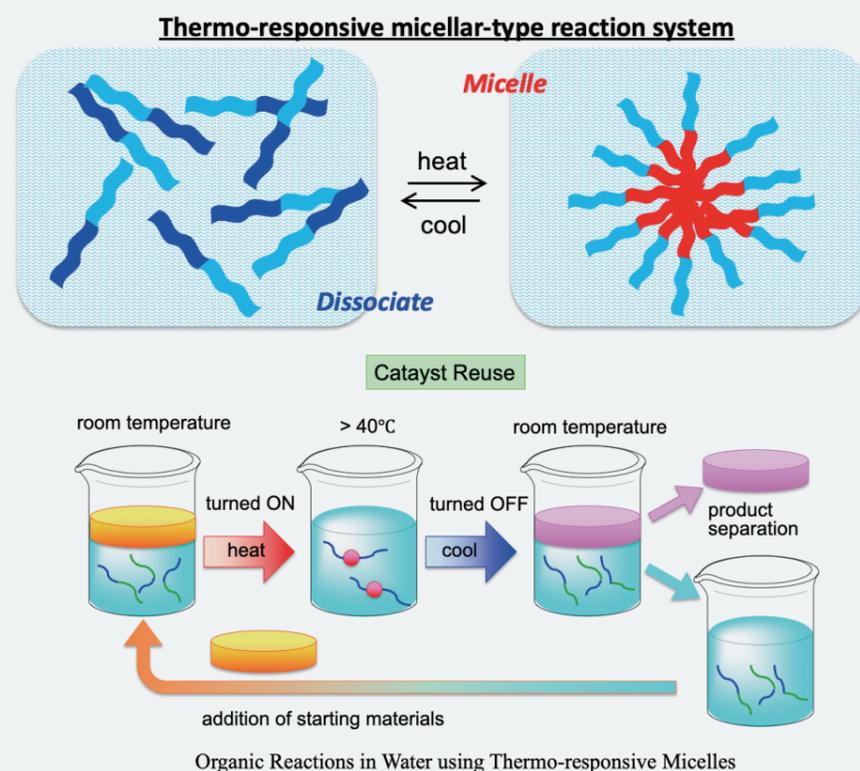
Noriyuki Suzuki, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

Manufacturing of organic chemicals are generally carried out in organic solvents. Reactions using water as a solvent are desirable because they have less impact on the environment, but they are rarely adopted at industry due to many restrictions, such as the insolubility of the organic raw materials. One method is to utilize an emulsion by using a surfactant, but once the mixture has been emulsified, an extraction process with an organic solvent is usually required to separate the product from the emulsified mixture.

Thus, we envisioned that it would be possible to realize a system in which organic reactions can be easily and selectively carried out in water by using a polymer whose hydrophilicity and hydrophobicity are switched depending on the temperature. Thermo-responsive polymers are known as such substances. There has been much research into the application of such polymers to medical materials, but there have been few examples of their use in organic reactions. We aim to develop a reaction process with less environmental impact by applying surfactants using thermo-responsive polymers to organic reactions. So far, we have found that this has the effect of improving reaction yields and making product separation more efficient. We have also clarified that catalysts can be easily reused by binding various catalyst molecules to the thermo-responsive polymers.



[Specific Examples]

After performing an organic reaction in heated water, the organic layer can be separated relatively easily by cooling. This reduces the amount of extraction solvent used and, moreover, the use of immobilized polymers with catalyst allows the catalyst dissolved in the aqueous phase to be reused.

[Related Patents / Papers]

Palladium-Catalyzed Mizoroki-Heck and Copper-Free Sonogashira Coupling Reactions in Water using Thermo-responsive Polymer Micelles

N. Suzuki, S. Koyama, R. Koike, N. Ebara, R. Arai, Y. Takeoka, M. Rikukawa, F.-Y. Tsai, *Polymers*, 2021, 13, 2717.

Palladium-Catalysed Reactions in Water Using Catalysts Covalently Tethered on a Thermo-responsive Polymer

N. Suzuki, N. Ebara, R. Arai, C. Takahashi, T.-Y. Hung, Y. Takeoka, M. Rikukawa, Y. Yokota, F.-Y. Tsai, *Cat. Sci. Tech.* 2025, 15, 696.

<https://sophia-seeds.jp/en/seeds/750/>



Research and Development of Next-generation Carbon-recycled and Carbon-free Automobile Fuels and Engine Combustion Technologies Aiming for Ultimate Thermal Efficiency Through Chemical Reaction Control

Kazuo Takahashi, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

Most automobiles today use fossil fuels such as gasoline, diesel, and natural gas to power their internal combustion engines. However, automobiles must also evolve to address global issues, including global warming and climate change as well as the depletion of fossil resources. Japan has set a goal of reducing greenhouse gas emissions by 46% compared to FY2013 levels by 2030 and achieving net zero (carbon neutral) by 2050. There are various approaches for the automotive sector to help achieve this goal. While no definitive solution has been found yet, our research group is working toward actual solutions by changing the fuel burned in conventional internal combustion engines.



Japan's Most Advanced High-Pressure Shock Tube

In order to reduce or eliminate carbon dioxide emissions from automobile engines, research is required from two perspectives: namely, 1) development of new fuels; and 2) improvement of the thermal efficiency of automobiles. By capturing the carbon dioxide produced by combustion and reducing it with hydrogen produced from renewable electricity to regenerate the fuel (carbon-recycling synthetic fuel or e-fuel), or by using the power of plants (photosynthesis) to carry out this capture and reduction process (biofuel), carbon dioxide emissions will not increase any further than they are now even when the automobile is running. In addition, ammonia has recently been attracting attention as an energy carrier for hydrogen and when ammonia is burned as fuel, no carbon dioxide is emitted because ammonia does not contain carbon.

If such carbon-recycled or carbon-free fuels are used as automobile fuel, greenhouse gas emissions from automobiles could be virtually eliminated. However, the manufacturing costs of these fuels are naturally higher than those of fossil-derived gasoline or diesel. In order to absorb this higher cost, it is necessary to improve the thermal efficiency (fuel economy) of automobiles. In addition to developing the next-generation automobile fuels mentioned above, we are also conducting research to improve the thermal efficiency of automobile engines from the current 40% to 60%. This can be achieved by controlling reactions using a special device called a high-pressure shock tube, which can track chemical reactions during engine combustion.

<https://sophia-seeds.jp/researcher/277/>



Velocity field / flow / registration / motion estimation from video

Yusuke Kameda, Assistant Professor

Faculty of Science and Technology, Department of Information and Communication Sciences

[Abstract]

I have the expertise and knowledge to handle everything from mathematical modeling with applied mathematics to numerical analysis, software, and hardware implementation. In particular, I have a unique advantage in numerically stable implementation (computational science / numerical analysis) for estimating the dense motion distribution (optical flow / scene flow) of all subjects in a video based on the variational method.

Since there is no non-linear operation and there are no variables just for numerical calculation, it is easy to make hardware.

The research theme is a method of stably estimating the three-dimensional motion (scene flow) of the subject surface from stereo images of in-vehicle cameras and range sensor images.

For 4D images such as medical images, it is possible to estimate dense 3D motion for each 3D data point. By using the estimated motion, it can be applied to predict the course of the subject, classify by motion, improve the data compression rate of moving images, and so on.

I am familiar with the latest C++ language standards and the internal implementation of the OpenCV library, and have experience in projects related to high-speed image processing when I belonged to a company, so I can provide high-quality technical guidance.

[Specific Examples]

Short-term future prediction, video coding

[Future Prospects]

Estimating with special sensors, speeding up, high accuracy, etc.

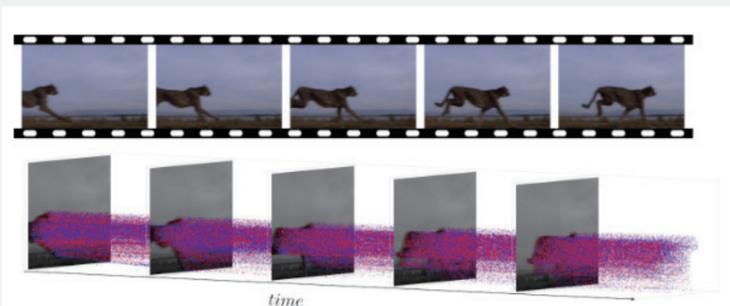
[Research Facilities and Equipments]

Stereo event camera DAVIS346, intel realsense d435i, NVIDIA A6000 x4 384GB workstation

[Collaboration with External Organizations]

Medical image application, autonomous driving, video coding, etc.

<https://sophia-seeds.jp/en/seeds/771/>

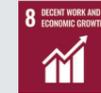


Event camera. The normal camera frame above causes motion blur and insufficient frame rate. In contrast, the red and blue event data below represent asynchronous high temporal resolution luminance changes per pixel. <https://w.wiki/5JKV>



GOAL 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



Research on Platform Labor

Jun Imai, Professor

Faculty of Human Sciences, Department of Sociology

[Abstract]

This research evaluates how the expansion of platform work is changing work styles centered on employment relationships and how such changes will affect the sustainability of capitalist labor society. During the COVID-19 pandemic, non-employment work styles expanded, such as the increase in Uber Eats delivery workers. Platform work is transforming society, which has traditionally been centered on employment by corporate organizations, toward one characterized by high marketability and non-employment. Of course, as is commonly said, there is no problem with such work styles if they are truly autonomous and sustainable, and do not cause major problems for career development or family formation.

However, it is problematic if these changes threaten workers' daily lives and career and life plans. In such cases, this research aims to clarify how employment and social policies can and should address this situation.

[Future Prospects]

Platform work tends to be praised as a way of working that supports high convenience and worker autonomy. In reality, though, the wages and employment stability of freelancers, including platform workers, are extremely low, and if this type of work style continues to increase, it will put the sustainability of Japan's capitalist labor society at risk. Japan's traditional work style has long been considered a major cause of death from overwork and a declining birthrate and is no longer considered a sustainable way of working. Adding more unstable employment to this situation would be extremely dangerous. However, those who choose this type of work style have a deep-rooted perception that Japan's traditional employment work style is non-autonomous and unsustainable, and so they find self-employed (freelance) work styles attractive and are drawn to them. If that is the case, The direction of this research project is to consider how to develop this work style in a sustainable manner.

<https://sophia-seeds.jp/seeds/870/>



Launch of Massage Services for Faculty and Staff

Sophia School Corporation opened the Sophia Refresh Room in July 2024 with the aim of promoting employment of people with disabilities and improving the welfare of faculty and staff.

The Refresh Room is located on the Yotsuya Campus and is run by two nationally certified blind massage therapists. Reservations are required and massages are provided free of charge in the form of a 40-minute full-body massage.

There are two beds in the room, separated by a partition and curtain. Warm lighting and calming background music help guests to relax and unwind. An air purifier is also used and the beds are disinfected after each treatment to ensure thorough infection prevention control. The Refresh Room is also licensed by the Chiyoda Public Health Center.

One of the therapists commented, "During the massage,





you are free to relax quietly, talk to the therapist, or even fall asleep.” Although it has only been open for a short time, the Refresh Room has been extremely popular, and reservations are often hard to make. Sophia School Corporation will continue to strive to create a healthy and comfortable workplace for everyone.

Sustainable Societies in a Fragile World. Perspectives from Germany and Japan

Focusing on Germany and Japan, two of the world’s largest economies, this volume presents a collection of case studies and survey research which tackle questions of sustainability within three core areas:

1. Transition to an environmentally friendly society (waste management, sustainability education, and environmental attitudes);
2. Sustainable and resilient regional and urban development (disaster resilience and smart cities);
3. Inclusive societies (homelessness under COVID-19, cyberbullying, and democratic values).

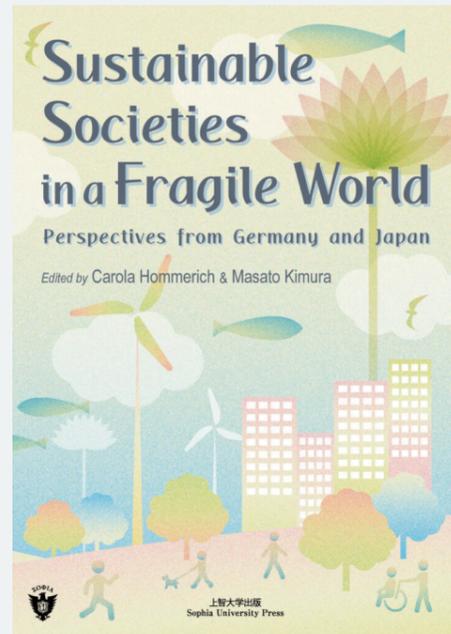
The book brings together experts from sociology, education, psychology, and urban engineering, with most of the research being interdisciplinary and comparative in nature, documenting the challenging journey towards a sustainable future.

Editors

Carola Hommerich, Professor, Department of Sociology, Faculty of Human Sciences, Sophia University.

Masato Kimura, Professor, Department of Sociology, Faculty of Sociology, Toyo University.

<https://diversity-sustainability.sophia.ac.jp/en/efforts/5277/>



Sophia University Special Grant for Academic Research
Professor Hommerich leads the research project “The Individual as Driver of the Green Shift. An Analysis of Environmental Attitudes and Willingness to Support Climate Change Mitigation Measures in Japan” funded by a Sophia University Special Grant for Academic Research (Optional Topics), 2024-2026.



GOAL 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

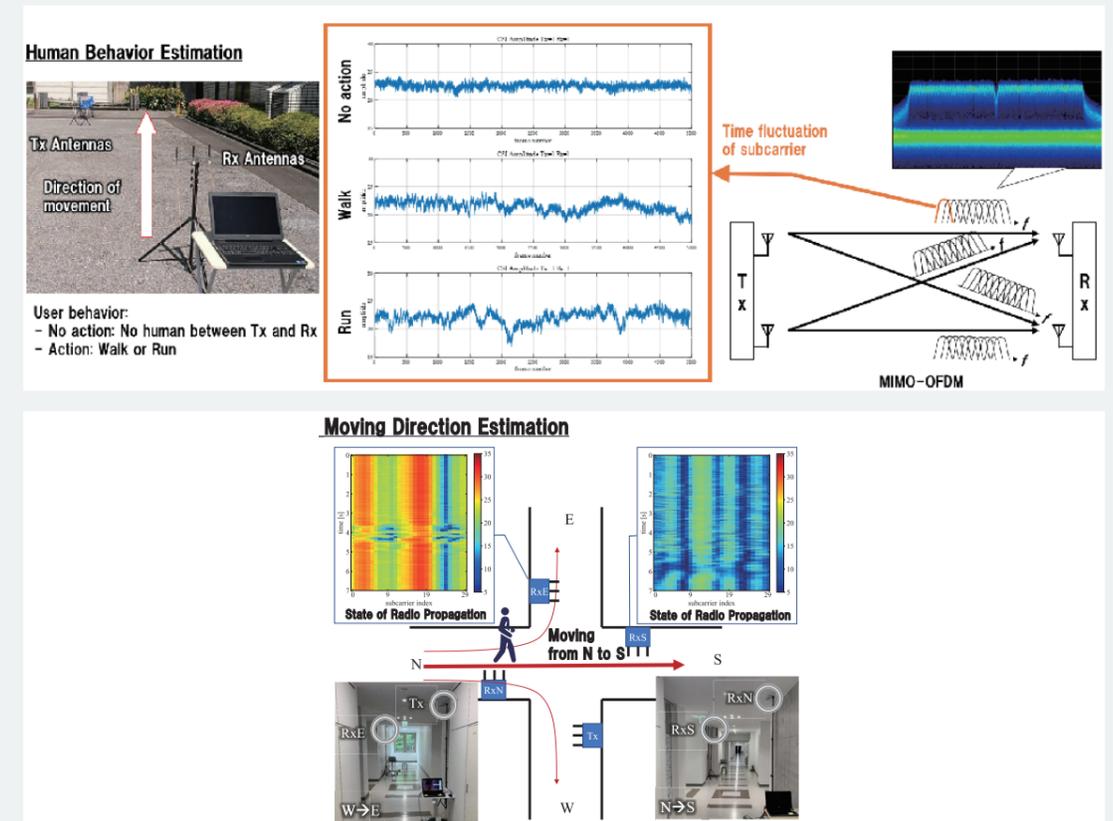
Wi-Fi Sensing

Masakatsu Ogawa, Professor

Faculty of Science and Technology, Department of Information and Communication Sciences

[Abstract]

We are developing new applications for Wi-Fi sensing, which uses Wi-Fi radio waves as sensors. Because Wi-Fi uses radio waves, unlike cameras, it does not invade privacy, and unlike infrared sensors, it can sense a wide area. An example application of Wi-Fi sensing is presence detection based on fluctuations in radio waves, breathing rate measurement and rotation rate measurement from periodic fluctuations without contact. Furthermore, by combining it with AI (machine learning), Wi-Fi sensing can be applied to behavior estimation, movement direction estimation, number of people estimation, dryness estimation, and object identification. Through collaboration with various industries, we aim to build systems in which Wi-Fi sensing functions effectively. The IEEE802.11 Working Group is expected to approve the IEEE802.11bf, the standardization of Wi-Fi sensing.



[Specific Examples]

Various estimations using Wi-Fi sensing

Congestion estimation, people flow estimation, location estimation, object identification, material identification, etc.

[Future Prospects]

Creation of diverse applications using Wi-Fi sensing

[Collaboration with External Organizations]

Development of applications using wireless communication

[Related Patents / Papers]

Ogawa, M.; Munetomo, H. Wi-Fi CSI-Based Outdoor Human Flow Prediction Using a Support Vector Machine. *Sensors* 2020, 20, 2141.

<https://doi.org/10.3390/s20072141>

<https://sophia-seeds.jp/seeds/570/>

Development of Biofunctional Materials for Advanced Medical Technology

Noriyuki Hisamori, Professor

Faculty of Science and Technology, Department of Engineering and Applied Sciences

[Abstract]

The aging of Japan's population is increasing the incidence of motor function diseases, such as osteoporosis, degenerative spine disease, and osteoarthritis, which are caused by degeneration of bones and articular cartilage. For this reason, more people are incorporating sports into their lifestyles to help improve the quality of a healthy and fulfilling life. However, with the increase in the active population and the aging of the population, musculoskeletal injuries, such as fractures, ligament damage, and cartilage damage, are also on the rise. Treatment of such musculoskeletal diseases is one of the major challenges for future medical care, and it is important to restore the properties, morphology, physical characteristics of the musculoskeletal system to its original physiological state as much as possible. Therefore, we are conducting research on materials to replace bones, cartilage, ligaments, and joints from the perspective of biomaterials and engineering, a field which lies at the interface between medicine and science and engineering.

[Specific Examples]

This research can be applied as follows.

- Creation of medical metal alloys using additive manufacturing and their application to medical devices
- Development of titanium alloy spinal implant devices using a spinal composite model and evaluation of fatigue properties
- Research into improving the fatigue properties of metal-based wrought materials and additively manufactured implant devices using various surface modifications
- Development of fatigue test methods for intramedullary nail implant devices and proposal of evaluation methods
- Proposal of interface strength and evaluation methods for coating materials for medical materials
- Construction of surface modification and functionality imparting technology for artificial joint sliding members
- Evaluation of mechanical properties of orthopedic prosthetics and development of custom-made prosthetics using 3D printers
- Development of medical measuring instruments for use in the orthopedic field
- Promotion of medical-engineering collaboration programs

[Future Prospects]

Our goal is to develop and construct biofunctional materials for advanced medical technology and to establish methods for their mechanical evaluation.

[Research Facilities and Equipments]

Material strength testing equipment, fatigue testing equipment, hardness testing equipment, X-ray residual stress measuring equipment, surface roughness measuring equipment, abrasion testing equipment, corrosion testing equipment, structural analysis evaluation testing equipment (XRD: X-ray Diffraction, EBSD: Electron Back Scatter Diffraction Patterns, EDX: Energy Dispersive X-ray Spectroscopy), microstructural structure observation testing equipment (FE-SEM: Field Emission - Scanning Electron Microscope, SEM, SPM: Scanning Probe Microscope, laser microscope, polarizing microscope), etc.

[Collaboration with External Organizations]

Development and construction of biofunctional materials for use in advanced medical technology and proposal of methods for their mechanical evaluation

[Related Patents / Papers]

"Lower limb muscle strength quantification device" Patent No. 3927927

- Aiming for the Future of Artificial Joints - From History to Future Prospects - Chapter 9, Section 9-4-1, Japan Medical Library, July 2013.
- Fracture Mechanics Series - Towards Unbreakable Product Design - Part 2, Chapter 2, Section 1 "Biomaterials" Co-authored by NTS, February 2012.
- Hisamori, Noriyuki, "Material Strength Evaluation of Medical Additive Manufacturing Products using Electron Beams," *The Review of Laser Engineering*, 41(2), pp. 20-27, 2017.
- Hisamori Noriyuki, Onuki Hiroshi, Akai Tsugumu, Matsumoto Hideo, "Methods for Evaluating the Functionality of Braces" *Clinical Sports Medicine* 40(9), pp. 892-897, 2023.

<https://sophia-seeds.jp/seeds/514/>

Special Lecture by Makoto Uchida, CEO, Nissan Motor Co. Ltd. "Nissan's Vision for the Future of Mobility- Walking with the World Toward a Sustainable Society"

On December 19, 2023, Makoto Uchida, President and CEO of Nissan Motor Co., Ltd. ("Nissan") and Vice Chairman of the Japan Automobile Manufacturers Association, delivered a special lecture entitled "Nissan's Vision for the Future of Mobility- Walking with the World Toward a Sustainable Society," in the 17th floor conference room of Building No. 2, attracting approximately 110 students, faculty, and staff. In his talk, he discussed Nissan's response to the current climate change, societal issues such as depopulation and aging, and changes in consumer values, as well as what Nissan is doing to address these issues. He also mentioned Nissan's approach to and implementation of DEI (Diversity, Equity, and Inclusion). He told the participating students, "In today's corporate world, companies are looking for people who can solve problems even in unfamiliar environments." He encouraged the students to take a bold step into a world they have never entered before and to continue to expand their vision. In the second half of the event, Sophia University alumni Miyu Miyoshi (2019 master's graduate in Applied Chemistry, Science and Technology) and Tetsuko Yamamoto (2019 graduate in Business Administration, Faculty of Economics) joined in the event and responded to inquiries from attendees, including topics about the renewable energy market.



https://www.sophia.ac.jp/jpn/article/news/topics/231219_nissan/



Research on Communication Systems and Optical Components for Next-Generation High-Speed Optical Fiber Communication

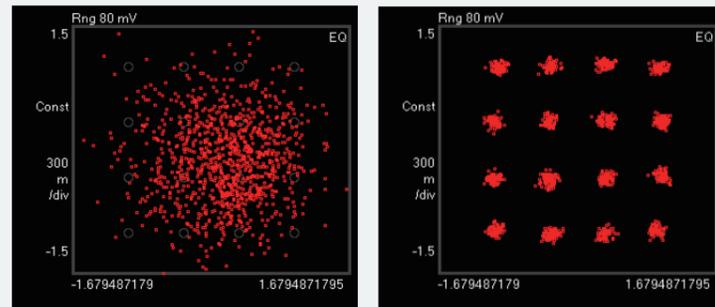
Hiroshi Takahashi, Professor

Faculty of Science and Technology, Department of Information and Communication Sciences

[Abstract]

In traditional intensity modulation methods, where the on-off state of a laser beam is assigned to digital signals of 1 and 0, there are limitations in transmission speed. To overcome these limitations, recent optical fiber communication systems use modulation methods that change the phase of light according to the transmitted information. For instance, the QPSK (Quadrature Phase Shift Keying) method is employed for 100Gb/s transmission. As the opportunities for utilizing digital information technology continue to grow, further advancements in communication system speed are demanded, requiring research into even more sophisticated modulation techniques.

Our laboratory focuses on developing innovative transmitter and receiver architectures by combining optical signal processing circuits, modulators, high-frequency circuits, and optical devices, aiming to achieve ultra-high-speed communication. Additionally, we are exploring applications of optical integrated circuits, developed for ultra-high-speed communication, in fields beyond telecommunications.



16QAM signal in standard optical fiber transmission

16QAM signal with pre-compensation using optical circuits

[Expected applications]

Core optical fiber communication networks

Short haul networks such as server-to-server communication in data centers

Various sensing applications using light

[Future Prospects]

Expanding advanced signal transmission and optical signal processing technologies, developed for optical communication, into other fields such as measurement technology and sensors.

[Research Facilities and Equipments]

Optical transmission simulators

Optical transmission and reception experimental systems

Broadband oscilloscopes

[Collaboration with External Organizations]

Simulation and experimentation for large-capacity optical transmission, and performance validation of advanced optical transmitters and receivers (for research institutions)

Consultation on optical communication technologies (for general businesses)

Lectures and presentations on the fundamentals of optics and communication (for general audiences, including students from junior high schools and colleges)

<https://sophia-seeds.jp/seeds/602/>

Disruptive Innovation and Competitive Advantage

Hisanaga Amikura, Professor

Faculty of Economics, Department of Management

Even for the same product or service, the content and magnitude of value recognized by customers differ. Research on how to build and maintain a company's competitive advantage by examining business models and ecosystems that provide new value to customers.

<https://sophia-seeds.jp/seeds/199/>

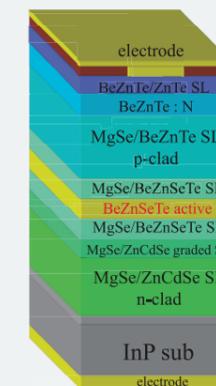
Development of II-VI compound semiconductors on InP substrates and device applications

Ichirou Nomura, Professor

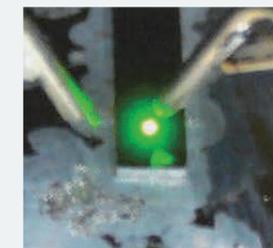
Faculty of Science and Technology, Department of Engineering and Applied Sciences

[Abstract]

We are developing semiconductor laser diodes and light-emitting diodes emitting in the green to yellow region using II-VI compound semiconductors such as MgZnCdSe and BeZnSeTe grown by molecular beam epitaxy on InP substrates. These materials are lattice-matched to InP substrates, so high-quality crystals can be obtained, and they have band gaps corresponding to the visible to ultraviolet region, so they are promising as green to yellow light-emitting (active layer) materials and cladding layer materials. So far, we have fabricated devices using BeZnSeTe as the active layer, MgSe/ZnCdSe superlattice as the n-cladding layer, and MgSe/BeZnTe superlattice as the p-cladding layer, as shown in the figure, and obtained light emission by current injection. In addition, the device lifetime, which was a problem in former II-VI devices, has been significantly improved, demonstrating high reliability. On the other hand, it has been found that large hetero-barriers can be obtained by combining these semiconductor materials, and applications to resonant tunneling diodes, intersubband transition devices, etc. are expected. In this way, the above materials are expected to be used in optical devices that cover a wide wavelength range and novel high-performance electronic devices, and they have great potential.



A schematic diagram of the II-VI compound semiconductor emitting device.



A green light emission of the II-VI compound semiconductor emitting device.

[Specific Example]

Green and yellow semiconductor lasers can be applied to semiconductor laser projectors, and are expected to be core components of ultra-compact, low-power consumption, high-resolution next-generation displays. They are also expected to be used in medical applications such as retinal treatment, and in bio-applications such as gene analysis.

[Future prospects]

In addition to aiming to realize green and yellow semiconductor laser diodes, it is expected that

GOAL 10: REDUCED INEQUALITIES

Reduce inequality within and among countries

by exploring the potential of these materials in more depth, it will be possible to apply the large hetero-barrier to resonant tunneling diodes, intersubband transition devices, and even solar cells.

[Research Facilities and Equipments]

Molecular beam epitaxy, X-ray diffraction measurement, photoluminescence measurement, electrical characterization, photolithography, electron beam lithography, dry etching, focused ion beam equipment, etc.

[Collaboration with External Organizations]

Development of green and yellow semiconductor laser diodes, research of resonant tunneling diodes and intersubband transition devices, research of solar cells, and development of II-VI compound semiconductor materials.

[Related Patents / Papers]

- I. Nomura et al, "Photopumped green lasing on BeZnSeTe double heterostructures grown on InP substrates," APL, Vol. 94, 2009, 021104.
- I. Nomura et al, "Photopumped lasing characteristics in green-to-yellow range for BeZnSeTe II-VI compound quaternary double heterostructures grown on InP substrates," JJAP, Vol. 50, 2011, pp. 031201-1-8.

<https://sophia-seeds.jp/seeds/508/>

Research on marketing strategy and brand management

Yoko Sugitani, Professor
Faculty of Economics, Department of Management

[Recent Research Topics]

- (1) Research on strategies to build a "strong" brand
Customers' evaluations of a brand can be divided into two types: "strong" brand attitudes that do not deteriorate even if they read negative word-of-mouth messages, and "weak" brand attitudes that are susceptible to others' opinions and are prone to brand switching. It is important for companies to distinguish between "strong" and "weak" brand attitudes and establish a "strong" brand reputation because many consumers are exchanging their opinions about products and brands on social networking sites. I am studying on how to build a strong brand by investigating the structure of consumers' attitudes. I am also interested in the characteristics of Japanese consumers' brand attitudes in comparison with those of consumers in other countries.
- (2) Research on consumers' attitudes toward digital communication
With the spread of online stores and remote working, we have more opportunities to use digital communication (e.g., chatting and videoconferencing) on a daily basis. However, we tend to prefer face-to-face communication to digital communication because we feel face-to-face easier to communicate our intentions and emotions. Why is this? By analyzing consumers' attitudes to digital communication, I am studying what consumers seek from communication and what factors define their satisfaction in communication. Clarifying the causes of consumers' skeptical attitude toward new technologies such as digital communication also leads to research on the factors that hinder the diffusion of AI and robotics-based businesses.
- (3) Research on the managerial effects of corporate activities to achieve the SDGs
Many companies are engaged in various activities to achieve the SDGs, such as developing environment-friendly products and supporting impoverished people. Although these activities are all based on a great philosophy, academic research has shown that no matter how great these activities may be, if they are conducted in an inappropriate way, they will not be favorably evaluated by customers. Then, what should companies know when implementing social activities to achieve SDGs? I am studying on factors to lead companies' social contribution activities more successful.

<https://sophia-seeds.jp/en/seeds/738/>



International Symposium : "The Reality of Creating an Inclusive Society: From Efforts of Different Art Centre for Support and Independence of Differently Aabled"

An international symposium entitled, "The Reality of Creating an Inclusive Society: From efforts of Different Art Centre for support and independence of differently abled" (organized by the Institute of Asian, African and Middle Eastern Studies, Sophia University), was held on November 7, 2023. The event featured lectures by Gopinath Muthukad, Director of Different Art Centre, which supports the independence of people with disabilities in India, and a magic performance by Vishnu, a magician with disabilities. During the talk session with Chancellor Sali Augustine, and experts on people with disabilities and social welfare in Japan, comments and opinions were raised, such as, "As people become more familiar with people with disabilities, society's understanding and support should progress further," and "Different Art Centre's activities can make a difference in India."



Diversity Channel/Medical Inclusion Project Diversity and Inclusion Project for Healthcare, Nursing, Welfare and Care Giving

Eiko Takaoka, Professor
Faculty of Science and Technology, Department of Information and Communication Sciences

[Abstract]

We are exploring how to use ICT to provide a better experience to foreign nationals who visit Japanese hospitals for treatment. We are exploring multilingual services in hospitals. In reality, both patients and medical institutions still need interpreters, but the current situation is different, causing great stress for both parties. Our tools are designed to help ease that stress. Various multilingual consent forms and patient instructions are also available. We are also considering producing training videos on need-to-know information when visiting a Japanese medical institution. At the same time, we would like to create training videos for Japanese medical staff on how to interact with foreign national patients and to learn about their culture. It will also facilitate communication between patients and elderly people who speak Japanese dialects and foreign national medical staff. Recently, the number of foreign national medical workers has been increasing. We are also considering producing videos to provide training for them.



[Specific Examples]

We are starting a new endeavor based on the results of our research into a multilingual information provision system in the fields of healthcare, nursing, welfare, and caregiving (SoCHAS). We are conducting joint research with the following medical institutions.

- Saint Marianna University Toyoko Hospital (from 2018)
- Dokkyo Medical University Saitama Medical Center (from 2019)
- Tokyo Medical and Dental University (2018 to 2019)



GOAL 11: SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable

【Future Prospects】

Communication obstacles are not just a problem between foreign national patients and Japanese medical staff. Communication problems with the elderly arise in hospitals where foreign national nurses work. First, it is very difficult for foreign nationals to understand Japanese dialects. Even without using dialects, the voices of elderly Japanese people are very low and plain, making them difficult for foreign nationals to understand; a major barrier to communication between Japanese patients and foreign national medical staff. This raises the questions if it will ever be possible to overcome such problems.

【Collaboration with External Organizations】

We welcome collaborative research. In particular, we would appreciate your cooperation in terms of lending out equipment and filming for video production.

【Related Patents / Papers】

Olinga Toh Raoul Joseph; Eiko Takaoka Hospital, Location Information System (HLIS) for Foreigners in Japan where They Can Find Medical Practitioners who Speak Multiple Languages, Including their Own, The 17th Conference of the International Society of Travel Medicine 2021

Eiko Takaoka and Kosuke Haruki, A demonstration experiment of a multilingual application for foreign patients,

Proceedings of the Transcultural Nursing Society Conference in Japan 2020

Matsumoto, Kenichi and Takaoka, Eiko, "Development of a Multilingual Hospital Guidance Application," 23rd Annual Meeting of the Japanese Society of Travel Medicine, 2019.

Research Outcome Report: <https://www.medical-inclusion.academy/home-jp>

<https://sophia-seeds.jp/seeds/597/>

Wel-bee (welfare-focused media for students, by students) Receives the Social Welfare Student Heroes Award

Student organization wel-bee, which publishes an online welfare magazine for students by students, mainly composed of students from Sophia University, received the Social Welfare Student Heroes Award sponsored by the National Council of Social Welfare Corporation Managers. The award recognizes the activities of students who are full of ingenuity and creativity and who convey the appeal of welfare in high school, university, and vocational school groups and circles. Five groups were selected this time, and the award ceremony was held at Ebisu Garden Room on February 27, 2024.



Wel-bee's vision is a society where welfare is "everyone's business" and where it is natural to ask for and give help. Wel-bee is a student-led welfare media circle that works every day with the mission of presenting welfare in a stylish and fun way to students who have no interest in it, so that they will become interested and take action.

Wel-bee's main activities include publishing a web magazine and a free newspaper, and public relations activities through social media. In addition to what they have researched and learned about welfare, and what they have experienced and felt, members also share event participation reports, and descriptions of welfare-related film and book viewing parties, and other information about welfare from various perspectives through the Internet.

- Name of award: Social Welfare Student Heroes Award organized by the National Social Welfare Corporation Executives Association (February 27, 2024)
- Recipient: wel-bee (Kazuha Maeda, Department of Social Services, Faculty of Human Sciences)

https://www.sophia.ac.jp/jpn/article/news/topics/gakuseiheros_wel-bee/



Survey for further use of Lake Kamo as green infrastructure

Takahiro Tsuge, Professor
Graduate School of Global Environmental Studies

Lake Kamo on Sado Island, Niigata Prefecture, is the largest lake in the prefecture with a circumference of about 17 kilometers. It is a brackish lake and oyster farming is thriving. In addition, kayaking and stand-up paddleboarding can be enjoyed, and the lakeshore is equipped with a promenade and a bicycle path, making it an attractive place for recreation. However, the reality is that only a limited number of residents use Lake Kamo. On the other hand, with the registration of the Sado Island Gold Mines as a UNESCO World Heritage Site and the further promotion of tourism is a local issue, it is important to improve the attractiveness of Lake Kamo as a tourist resource. It is expected that Lake Kamo, which provides a variety of ecosystem services, will be viewed as green infrastructure and its multiple functions (e.g., places for tourism and recreation, health promotion, and environmental education) will be further utilized.



Against this background, this study uses questionnaires to find out the perceptions of residents and tourists about the current situation at Lake Kamo, how it is used, and their latent needs for further use of the lake. Based on the current problems and user needs identified in the survey, new ways of using the lake for both residents and tourists will be discussed with residents, the Regional Revitalization Cooperation Team, and the local government.

*This research is supported by the Grant Program for Remote Island Human Resources Development Fund of the Center for Research and Promotion of Japanese Islands, a public interest incorporated foundation.





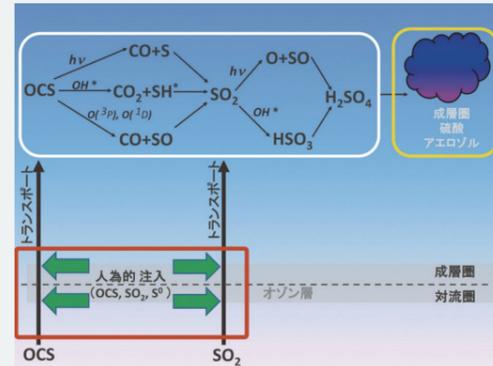
Introducing UV absorption spectra and isotope effects to mathematical models applied to the study of planetary atmospheric chemistry

Seba Fuyutsuki, Associate Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

My long-term plan is to use stable isotope and atmospheric chemistry models to study the variability and evolution of planetary atmospheres. My mid-term plan and graduate research theme is to develop and tune a one-dimensional atmospheric photochemical model based on first-principles calculations using physical and chemical processes, and to obtain UV absorption spectra with temperature-pressure contributions by quantum chemical calculations. As a graduation project, he has been working on a research theme using stand-alone-independence while maintaining linkage with the long- and medium-term research plan.



In 1991, 10TgS, a sulfur compound released by the Pinatubo volcanic eruption in the Philippines, reached the stratosphere. These sulfur compounds underwent various oxidation reactions that eventually produced ammonium sulfate and aerosols of sulfate (Sulfur Stratospheric Aerosols, hereafter SSA). Six months after the eruption, 6TgS aerosols remained, resulting in a negative radiative forcing of about 4.5 W/m². Positive radiative forcing causes warming, while negative radiative forcing causes cooling. It is known that volcanic eruptions have reduced the average surface temperature by 0.5°C due to the formation of aerosols as a result of the arrival of sulfur compounds in the stratosphere. The residence time of stratospheric aerosols was 1-2 years, and the cooling effect of Pinatubo faded quickly. This suggests that the sulfate aerosol had a radiative forcing of 0.75 W/m²/TgS. In addition to radiative forcing, the increase in aerosols of sulfate produced by volcanic eruptions has been pointed out to contribute to ozone depletion by altering the photochemistry of NO_x in the stratosphere. Stratospheric sulfate aerosols have a negative impact on the earth's radiation budget and are therefore an important factor in global cooling. Dr. P. Crutzen, a Nobel laureate in chemistry, and his colleagues have proposed a "geoengineering" (climate engineering) project to inject anthropogenic sulfur compounds into the stratosphere as a countermeasure against global warming. This would have a global cooling effect through the artificial injection of OCS, SO₂, and sulfur elements. However, climate engineering has large uncertainties in effects and side effects and requires large scale model intercomparisons with scenarios that accurately account for various factors. This kind of research 2017 activity made it possible and has continued until FY2022.

My research interests are not limited to the present-day Earth, but also include studies of early Earth atmospheres and exoplanetary atmospheres.

With the discovery of exoplanets and the progress of solar system exploration such as Mars, the search for life-bearing planets has begun. Aiming at the creation of "life-planet chemistry" to explore what is the planetary environment that produces life, we will explore the carbon species diversity (CO₂/CO/CH₄) of planetary environments by redox state. In particular, we are investigating what kind of life and chemical processes can occur in a CO-rich planetary environment (CO world).

[Related Patents / Papers]

SO₂ photoexcitation mechanism unlocks historical record of climate-impacting volcanism. S. Hattori, J. A. Schmidt, M. S. Johnson, S. O. Danielache, et al., PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, Under Revision, 2012.

<https://sophia-seeds.jp/en/seeds/790/>

GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

Marketing Strategies Based on Customer Senses

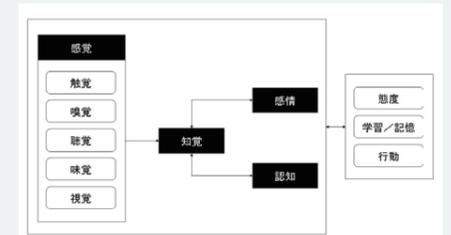
Taku Togawa, Associate Professor

Faculty of Economics, Department of Management

[Abstract]

Consumers' purchase decisions are largely influenced by sensory experiences such as vision, sound, and smell. For example, warmth (vs. coldness) conveyed by ad imagery can affect the evaluation of the advertised product. Specific types of smell in the retail environment promote consumers' purchase behavior of smell-related products. I research these effects and communicate the findings with academic communities and industries.

<https://sophia-seeds.jp/en/seeds/740/>



Conceptual model of sensory marketing (Sorcoe: Krishna, A. (2012). An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior. Journal of Consumer Psychology, 22(3), 332-351.)

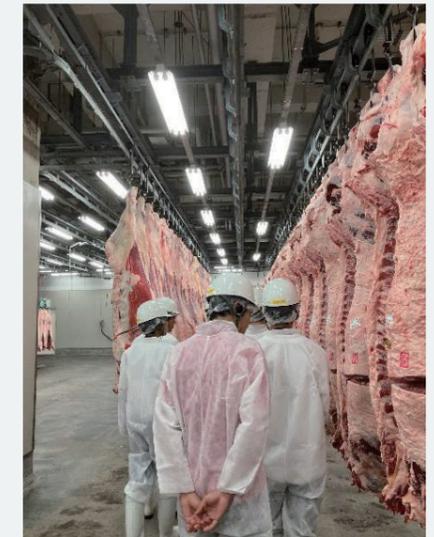
Tour of Hiroshima Central Wholesale Meat Market Hiroshima Gakuin Junior and Senior High School

The Hiroshima central wholesale meat market is located right next to a large shopping center. Hiroshima Gakuin students visited one of the auction areas there. They were given an explanation about the role of the market and how beef and pork are turned into the meat.

Generally, about 30 to 70 head of cattle and 250 to 350 pigs are brought to the market each day. These cattle and pigs are first examined, and if any abnormalities are found, more detailed examinations, such as blood tests, are conducted. The animals are then processed into meat, and, at each stage, inspections are also carried out by veterinarians. Once processed, the animals are graded and then auctioned. Also, if any defects are found during the grading process, the price per animal is reduced by several tens of thousands of yen. Students learned that the market tries to avoid waste as much as possible from the cattle and pigs they receive, as they sell not just the meat, but also the hides, which are turned into leather products.

Finally, students paid their respects at the memorial for the animals that were slaughtered at the meat processing market.

During this tour, students saw how many different people are involved before the meat reaches the market, and how much care is taken care of at the processing site. As a result, students realized how fortunate they are to be able to eat meat without having to think about the actual process.





Development of all-solid-state rechargeable batteries using flexible solid electrolytes

Masahiro Fujita, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

We are focusing on plastic crystals as a novel solid electrolyte. Plastic crystals are composed of regularly arranged crystal lattices, and are defined as substances with orientational and rotational disorder at the molecular level. As a result of their disorder, they are able to move significantly and are characterized by high plasticity and high diffusivity of the component molecules. The plastic crystals, we developed showed high ionic conductivity values which are almost the same with those of liquid electrolytes. This makes it possible to evaluate the charge and discharge of the battery. We expect that the potential of this material is high, and by further enhancing lithium ion conductivity, we can accelerate the development of all-solid-state lithium ion batteries.



[Specific Examples]

Lithium-ion batteries

[Future prospects]

It can be expected to be applied not only to lithium-ion secondary batteries but also to solid electrolytes for electric double layer capacitors and various rechargeable batteries.

[Research Facilities and Equipments]

UV-vis spectroscopy, GPC:Gel Permeation Chromatography, Raman spectroscopy, DSC:Differential Scanning Calorimetry, TG-DTA:Thermo Gravimetric-Differential Thermal Analysis, impedance analyzer, potentio/galvanostat, AFM:Atomic Force Microscope, charge/discharge test

[Collaboration with External Organizations]

1. Development of highly conductive plastic crystals
2. Development of high-performance lithium-ion batteries
3. Development of high-performance capacitors
4. Development of various rechargeable batteries

[Related Patents / Papers]

T. Ootahara, K. Hatakeyama-Sato, M. L. Thomas, Y. Takeoka, M. R. ikukawa, M. Yoshizawa-Fujita "Efficient Exploration of Highly Conductive Pyrrolidinium-Based Ionic Plastic Crystals Using Materials Informatics" ACS Appl. Electron. Mater., 6, 5866-5878 (2024). (Selected as C over Picture)

<https://sophia-seeds.jp/en/seeds/788/>



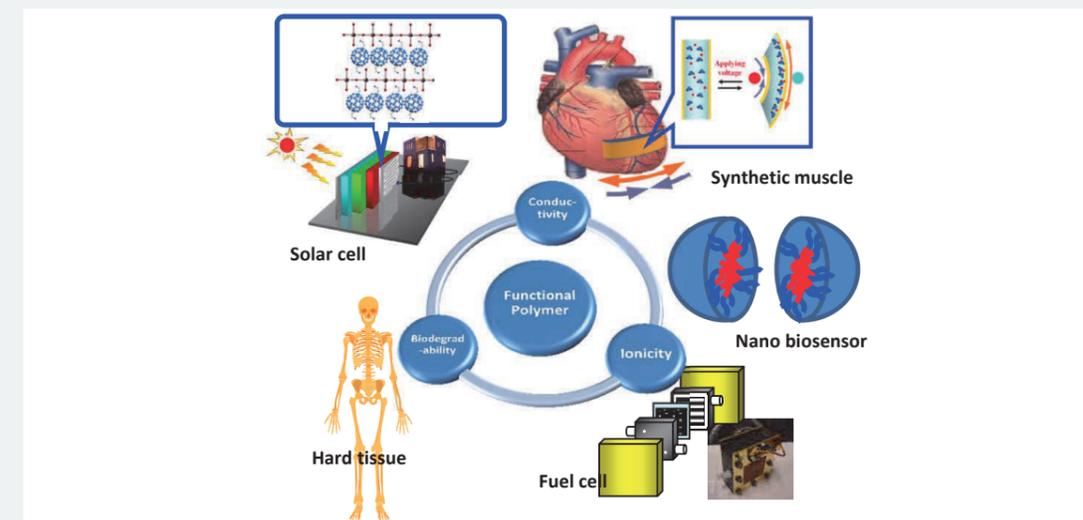
Environmentally Friendly Functional Polymers

Masahiro Rikukawa, Professor

Faculty of Science and Technology, Department of Materials and Life Sciences

[Abstract]

We utilize cutting-edge organic synthesis and polymer synthesis technology to create super-organized structures and then connect the functions (conductivity, ionic properties, biodegradability) obtained from these structures to three application fields (environmental energy, biomedical, and nano-electronics and optical).



•By applying stereoregularity, block structuring, and sequence control to π -conjugated polymers, we are clarifying the relationship between higher-order structures and electrical/optical properties. We are also investigating the introduction of optically active groups and ionic groups as functional groups to impart molecular recognition ability.

•In order to create organic-inorganic composites, which have been difficult to develop, we have established our own *in-situ* polymerization method and enzymatic polymerization method. Using these methods, we have succeeded in synthesizing biodegradable polymers in porous hydroxyapatite and aim to develop new biomaterials that combine the excellent properties of both materials.

•We succeeded in developing a hydrocarbon-based electrolyte materials with high-order structure controlled at the nano-to micro-level by using a precision polymerization method and clarified the relationship between high-order structure and material transport. The special nanostructure resolves the previously unresolved trade-off between the high ion transportation and strength.

[Specific Example]

Proton-conducting polymer electrolyte membranes are being considered for use as electrolyte membranes for fuel cells or as actuator materials.

Hybrid materials made of biodegradable polymers and hydroxyapatite are being considered for application to hard tissues.

Conductive polymer materials based on polythiophene are being considered for use in electroluminescence (EL) and photovoltaic (PV) cells.

GOAL 13: CLIMATE ACTION

Take urgent action to combat climate change and its impacts

[Future Prospects]

Aiming to further improve the functionality of materials, we are promoting research into establishing the noble synthesis techniques and super-organizations to enable highly functional devices.

[Research Facilities and Equipments]

Polymer synthesis equipment, polymer material analysis equipment, fuel cell evaluation equipment, PV cell evaluation equipment, atomic force microscopes, laser microscopes, wide-angle X-ray diffraction equipment, clean booths, vacuum deposition equipment, electrosp spinners, Raman spectroscopy, etc.

[Collaboration with External Organizations]

Application study of new materials and development of evaluation technology

Cross-disciplinary research by industry, academia, and government

Supporting research and development for small and medium-sized enterprises and local industries

[Related Patents / Papers]

Synthesis of Hydrophilic-Hydrophobic Block Copolymer Ionomers Based on Polyphenylenes, K. Umezawa, T. Oshima, M. Fujita, Y. Takeoka, M. Rikukawa, ACS Macro Letters, 1, 969-972 (2012).

“Self-organization and Ultrathin Film Formation of Optically Active Polythiophene,” Rikukawa, Masahiro, and Takeoka, Yuko, “Functional Materials Utilizing the Properties of Heteroelements”, CMC Publishing, pp 207-215, 2010.

Proton conductive-polymer electrolyte membrane, its manufacture, and fuel cell and its manufacture, M. Kawahara, M. Takami, M. Rikukawa, Y. Takeoka, M. Fujita, Jpn. Kokai Tokkyo Koho, JP 2008218299 (2008).

<https://sophia-seeds.jp/seeds/383/>



Estimating CO2 absorption by seagrass bed project of Setouchi-cho of Amami Oshima

Haemi Park, Assistant Professor

Graduate School of Global Environmental Studies

Changes in the coastal environment due to population decline and climate change are severe issues that local governments in Japan have been generally facing in recent years. For that reason, the Graduate School of Global Environmental Studies at Sophia University is conducting research together with Setouchi-cho on Amami Oshima to reveal the relationship between the formation of mangrove forests and seaweed beds and the amount of carbon absorption. Field surveys have been conducted in Setouchi Town from 2022 to investigate the extent of mangrove plantations and the growth status of seaweed beds. Specifically, after analyzing drone images provided by the local government, a method using satellite images has been developed to realize wider application. This method will be useful for setting carbon neutral goals in local governments. In near future, environmental improvements and economic compensation through carbon credits are expected.

Such efforts are important because they enable local governments to improve their sustainable management and nature conservation, and provide the cutting-edge technology needed to reduce the environmental burden of a declining population and a gradually increasing number of tourists. In addition, it can suggest a more practical approach to SDGs issues because this research is being carried out with a great deal of cooperation from local government. Finally, it is expected to contribute to clarify carbon cycle in near shore areas.



Figure. Location of seaweed beds in Setouchi Cho, Amami Oshima. A drone image provided by Setouchi Town (arrows are created to obtain spatial information) (Left). On-site survey conducted to confirm the exact area (Right).



Conservation of Satoyama Landscapes through Yato Management Based on Local Farming Practices

Mikiko Sugiura, Professor

Center for Global Education and Discovery/ Graduate School of Global Studies

Yatsuda paddy fields, developed on the narrow valley bottoms of the Tama Hills, and their surroundings preserve valuable natural environments despite being located within the Tokyo Metropolitan area. This environment, known as *satoyama*, has been receiving increasing attention in recent years for its functions and values as a socioecological system mediated through human activities such as farming practices.

In particular, paddy field management based on local traditional knowledge nurtures local vegetation through the water system, and supports the ecology of valuable amphibians and insects that depend on this environment. Its functions and value are receiving global recognition as one of the Nature-based Solutions (NbS) that contribute to biodiversity conservation and climate change measures. *Satoyama* is now an important Japanese-originated concept that demonstrates the sustainable relationship between nature and humans.

The Machida Rekikan Management Association, the Rekikan Supporters Yatomori Club, the Tokyo Metropolitan Government, and other local community members are carrying out the valuable *satoyama* conservation work. I participate in these conservation activities as one of the contributors and as a researcher studying the connections between mountains, rivers, and oceans. With the understanding and cooperation of the aforementioned organizations, students in my Environmental Science and Conservation courses also participate in conservation activities, where they learn about human interactions with nature and its richness.



GOAL 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development



Hands-on Agriculture Workshop Connecting Saitama's Tone River Basin and Okinawa's Ocean

Yuka Mizutani, Professor

Center for Global Education and Discovery

[Abstract]

At the end of April 2024, we held a hands-on agricultural workshop in the rice paddies of the Tone River basin in Saitama Prefecture. This was part of outreach activities that attempt to introduce the natural environment and culture together.

More than 20 Sophia University students, including international students, participated in the workshop. The students seemed to have had a fun and fulfilling time through planting rice, tasting the rice harvested from the fields where they planted the seedlings, and interacting with young farmers. In addition, we provided an opportunity to sample some food from Okinawa, the base of Famille for Nature Conservation, which planned this event. Participants also tasted Shizuoka tea and experienced a sauna reproduced using traditional Japanese methods.

[Future Prospects]

I would like to continue to explore ways to protect and pass on the local environment and culture through outreach activities in Okinawa and Saitama. Also, although we were unable to achieve it this time, we would like to think about ways to put into practice mobile exhibits at such activity venues.

https://researchmap.jp/blogs/blog_entries/view/943932/665b5c2ba1332f557fb0c1ea07257e1b?frame_id=399665

Instagram: https://www.instagram.com/famille_for_natureconservation/





Sophia University Island Sustainability Institute (ISI)

Sophia University Island Sustainability Institute (ISI) has experience and expertise in field-based socio-ecological production systems focusing on resilience, vulnerability and adaptive capacities-related data collection, policy design and implementation projects in the Asia-Pacific region. Additionally, ISI is involved in analysing context and place-specific biodiversity (i.e. protected areas, nature-based solutions) and climate change related adaptation policy in small-scale farming and fisheries communities.



Empowering communities is a central tenet of ISI work. ISI is actively involved in gender-related projects and research, specifically looking at the role of women in small-scale agriculture, agro-forestry and fisheries in island contexts. Specific key examples of ISI work related to SDGs 2, 3, 5, 6, 13, 14, 15 and 17 include:

•Green Climate Fund (GCF) Climate Adaptive Food Security Project for Farm Households throughout the Federated States of Micronesia (FSM)

ISI worked with multiple governmental and non-governmental stakeholders on the “FSM National Coordinating Mechanism for Food Security” climate to continuously oversee and monitor all food security activities throughout the Federated States of Micronesia. ISI is also developing policy protocols and guidelines, research plans, and work programs under this project to integrate climate resilient food production into relevant policies and strategies to achieve long-term food security in the FSM. This activity is mainly related to Goals 2 and 13 of the SDGs.

•The project is funded by the Green Climate Fund (GCF) and is a community-based national climate change adaptation project funded by the Pacific Community (SPC).

By being involved in the establishment of this project in Micronesia, we are contributing to Goals 2, 6, 14, and 15 as well as Goal 13 of the SDGs. In this activity, we have been involved in communication plans, training materials for municipalities to obtain grants, environmental and social protection materials, and training.

•UN IFAD Small Island Food and Water Project (SIFWaP)

This is an ongoing project with IFAD Pacific Region office. ISI has been involved in project pre-launching work since 2022. SIFWaP focuses on farming and water projects in RMI, FSM, Kiribati and Vanuatu – 4 SIDS identified by the World Bank as among the most vulnerable in the world, particularly from an environmental perspective. ISI co-organized, coordinated and moderated the pre-launch national workshops for all 4 countries. ISI also produced the Monitoring and Evaluation Guideline and Impact Assessment Concept Note. ISI has played an active role in inception workshops with all 4 countries and is now transitioning into implementation from spring of 2024.

•Shimoda City Japan SDGs and Glocalism Working Groups

In 2022 was asked by Shimoda City government (Shizuoka prefecture) to act as moderator, facilitator and co-organizer of monthly meetings from July 2022 to present. In June 2023 ISI presented the findings and policy proposal to Shimoda City government. Since July 2023 ISI has led a project team to develop eco-tourism, payment for ecosystem services schemes related to marine socio-ecological production systems and marine conservation and sustainability use, and satoyama / satoumi integrated policy design and environmental educational activities.

Since January 2024, we have been working on a coastal restoration project in collaboration with the University of Javeriana in Colombia and the University of Tsukuba’s Shimoda Coastal Experimental Center. This is a collaborative effort between students and faculty, as well as representatives from the Shimoda City Hall and the surfing community, to exterminate non-native plants that have taken over the coastal ecosystem and gradually regenerate the damaged ecosystem. Activities are conducted every other month, and in June 2024, a symposium was held

in Shimoda City by professors from Javeriana University, Tsukuba University, and ISI, Shimoda City Hall, and the surfing community. It was an opportunity for interested citizens to learn about the damaged coastal ecosystem and the role of ecotourism in ecosystem restoration and nature conservation. Students from Sophia University and Tsukuba University also participated.

[Research Project]

•Measuring Climate Policy Commitments of Small Island Developing States (SIDS) to Nature-based Solutions

In 2023, ISI will partner with the University of Javeriana, the University of Aruba, the University of the West Indies, the Government of the Republic of the Marshall Islands, the Micronesian Conservation Foundation, The Nature Conservancy, and the Pacific Community (including over 15 SIDS in the Pacific) to launch an interdisciplinary research project on nature-based solutions in island countries and island regions (NbS We have established an interdisciplinary research project on Twenty-three researchers, including four graduate students from Sophia University’s Graduate School of Global Environmental Studies, are currently collaborating on the project.

The key aim of this research is to understand the levels of commitment to NbS as a meaningful approach to climate adaptation, mitigation and disaster management amongst SIDS as reflected in their integration into national climate policies.

The objectives to achieve this aim are:

1. Develop an NbS policy scorecard that can be used to evaluate the depth of integration of / commitment to NbS for climate action by SIDS as detailed in their climate policies and legislation.
2. Apply the scorecard to those climate-specific policies and legislation from all SIDS to identify:
 - a. Which countries demonstrate the greatest commitment to NbS for climate
 - b. Which countries would benefit from expanding their commitment
 - c. Which facets of NbS for climate are the highest and lowest scoring.
3. Build a baseline of data for all SIDS, identifying areas for increased commitment to / integration of NbS.

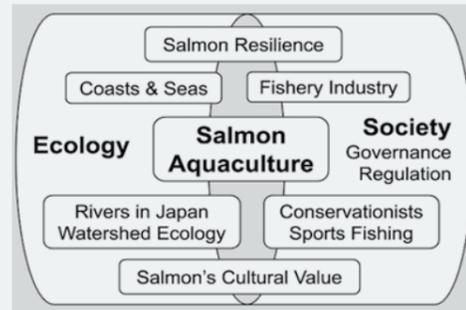
In August 2024, ISI was selected to receive a three-year research grant from Sophia University’s Special Promotion Fund for Academic Research as a priority area research project. The title of the research project is “Measuring the climate policy commitments of small island developing states and territories to nature-based solutions.”



Enclosing Salmon: Social-Ecological Resilience and Salmon Aquaculture in Japan

Takeshi Ito, Professor
Faculty of Liberal Arts,
Department of Liberal Arts

This research examines the rapidly developing aquaculture of salmon and its impacts on Japan's society and ecosystem. While the bulk of previous studies have focused on how to reduce costs and improve the efficiency of farming technology, little has been researched about the social and ecological implications of salmon aquaculture. We see aquaculture not only as technical and biological innovation but also as a socio-economic enterprise that disconnects salmon from the social-ecological systems (SES) through enclosures. Salmon are both a food commodity in the global food economy and a keystone species in the natural food web. By employing SES analysis, we investigate how the enclosure of a particular species influence the sustainability of existing ecological systems and the governance over its production, distribution, and consumption. This research seeks to integrate the complexity of social-ecological interactions into environmental policy-making that considers the sustainability of both humans and non-humans.



This research examines the emerging salmon aquaculture industry in Japan and its implication for the resilience of social-ecological systems. As capture salmon production has been decreasing every year, Japan's salmon industry is starting to augment offshore- and land-based farming to the existing hatchery system, the dominant system in Japan. While salmon aquaculture has far-reaching consequences for the fishery industry, the regulatory regime, and the ocean and river ecosystems, little social science research has been conducted to understand how this new technology is impacting the resilience of social-ecological systems. This research examines how this shift in salmon aquaculture is transforming both the existing ecosystem and the social relations around salmon. This research seeks to add the important dimensions of resilience, global food economy, and environmental ethics to the study of salmon aquaculture operating within the complex social-ecological relations.

The purpose of this research is to understand the emerging aquaculture industry and its impact on social-ecological resilience. Conventionally, poor harvest of salmon has been understood as a problem of scarcity caused by open access and overfishing, thus resulting in the tragedy of the commons (Hardin 1968). Japanese society, along with much of the world, has addressed the problem of the fishery stock depletion by forming fisheries cooperatives (through licenses and monitoring poaching) and developing technology to increase stocks. While successful, these approaches have advanced the commodification of salmon, social inequality, and ecological degradation. We argue that the transition from hatcheries to farming is a *longue durée* process that addresses the scarcity problem by enclosing salmon, segregating it from its native ecosystem of seas, rivers, and forests, and creating a controlled space for the production of market-ready commodities for human consumption.

<https://www.kasasustainability.org/post/salmon-aquaculture-an-interview-with-soul-of-japan>
<https://www.kasasustainability.org/post/salmon-aquaculture-an-interview-with-frd-japan>
<https://www.kasasustainability.org/post/salmon-and-indigenous-people-an-interview-with-masaki-sashima-and-morihiro-ichikawa>



GOAL 15: LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



Hunting Camp in Akitakata City Hiroshima Gakuin Junior and Senior High School

Students observed meat processing at the Akitakata City Meat Processing Facility for Wild Birds and Animals and saw an actual trapping site.

There are an estimated 12,000 deer in Akitakata City, located almost in the center of Hiroshima prefecture, and a human population of about 27,000. The deer are increasingly causing greater damage to the crops of local farmers. Yet, rather than just exterminate them, the facility staff thought about how they could turn the deer meat into a local delicacy. They decided to butcher some deer to make food. The process was carried out very hygienically, carefully, and quickly. Early the next morning, a deer was caught in a trap, so the students went to the site and observed the killing process. The deer was hit on the head with a stick to stun it, then its carotid arteries were cut and the blood drained. It was then immediately taken to the processing facility. To kill the deer instantly and without stress, a hunting rifle is supposed to be used, but on that day, it was broken. Instead, a wooden stick was used to kill the deer by hitting it in the neck. It took about three hits, and was a pretty shocking sight for the students, as the deer cried out and reacted wildly each time. Through this training, the students learned about the problem of agricultural damage caused by animals and how living creatures are turned into meat for consumption. The training also taught the importance of taking an animal's life and not wasting it.



Flower Arrangement and Flower Bed Making Sophia Fukuoka Junior-Senior High School

Since last year, Sophia Fukuoka Junior-Senior High School has been focusing on flowers and working in partnership with businesses and local governments with the aim of brightening up the community with flowers and greenery.

The first activity is a project where Sophia Fukuoka receives flowers from JA Yame and arranges them at events such as school festivals and the Fukuoka Municipal Zoo and Botanical Garden. This activity allows visitors to enjoy doing flower arrangements and take them home. Through these events flowers and greenery become a pleasant part of people's lives.

The second activity is making flower beds. After discussing with the Fukuoka Municipal Zoo and Botanical Garden, located adjacent to the school, students cooperated in making a new flower bed on the botanical garden entrance grounds. The students took full responsibility in all aspects of the flower bed, from designing to planting the seedlings and completion. The students are also responsible for maintaining the flower bed by watering and picking the flowers. Through this connection, Sophia Fukuoka was able to make a flower bed and participate in the Fukuoka City Flower Festival, where Sophia Fukuoka received an award from the mayor. Furthermore, at the One Person, One Flower Summit 2024, Sophia Fukuoka was selected in the One Person, One Flower Initiative Merit category, which recognizes companies, organizations, and individuals who have contributed to the One Person, One Flower initiative promoted by Fukuoka City. As a result, Sophia Fukuoka was once again awarded directly by the mayor as an organization that has made a particularly significant contribution. These two activities are still being carried out today by students.





Cultural Heritage Education in Angkor: From Academics in Archaeology to the Local Community

NHIM Sotheavin

Sophia Asia Center for Research and Human Development

1. The Importance of Cultural Heritage Education Programs

There is a lack of knowledge and information regarding Angkor's history and cultural heritage, particularly in the educational materials incorporated into school curricula. Textbooks from middle school to high school offer very little information about Cambodian history, the history of the Angkor monuments, and cultural heritage. Additionally, very few books are available on Cambodia's history and culture, resulting in a general public that is largely unaware of its own historical and cultural background.

Historical and heritage sites were in danger during the war, especially in the 1980s and 90s. Cambodian conservators estimated that almost 80 percent of 1070 temples lost artworks in the early 1990s. Many art objects were looted to meet the demand of dealers in international markets. The collectors who love art objects have never given a priceless value to the cultural heritage. A small country like Cambodia, which faced prolonged conflicts, was an easy ground to traffic the illicit trade artifacts. For just one example, an auction house of Sotheby has collected Khmer artifacts for about 377 pieces since 1988. This issue shows that looting and collecting are interconnected.

Even now, there are reports of art objects being looted and destroyed. This occurs because people do not understand the actual value of those art objects. We consider that cultural heritage education programs effectively prevent and protect against the illegal looting of art objects.

2. Activities of Sophia Mission in Cultural Heritage Education Programs

Due to insufficient material on Angkor's history and a lack of awareness about its cultural heritage, we must explain it directly. We have created junior guidebooks in English, Japanese, and Khmer for children. In these junior guidebooks, we present the history and culture of Angkor, as well as the significance of its cultural heritage, in a very simple manner.

Scientific archaeological excavation is not meant only for academic research but also to enable local inhabitants to understand our purpose and method of excavation and, furthermore, to acquire knowledge from the excavation. Therefore, we should educate villagers, especially children, on the process and importance of archaeological research. Children are our future; they can transfer what they have learned to the next generations. So far, at the site, we are not just giving the children knowledge about the history of Angkor and the value of the cultural heritage; we also encourage them to communicate such knowledge to their family and friends in the village. If they could understand the value of the cultural heritage, then they would begin to respect their temples and art objects and assist in protecting the cultural heritage on their own. Cultural heritage education is not intended to benefit only academic experts but also to share knowledge with the local community. In the long run, educating the local community is part of preserving cultural heritage. Although our own research has been hastened to attain this public awareness, the results have been encouraging. In particular, site tours could promote the public's understanding of archaeology.



GOAL 16: PEACE, JUSTICE, AND STRONG INSTITUTIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels



Record of SDGs-related Activities

Daisaku Higashi, Professor

Center for Global Education and Discovery

Between 2023 and September 2024, I had the opportunity to engage in several projects contributing to the achievement of the SDGs. Below, I would like to briefly introduce three key activities.

The Gaza Conflict and Humanitarian Collapse

On October 7, 2023, Hamas launched a cross-border attack, triggering a full-scale war between Israel and Hamas. The Israeli military invaded Gaza, resulting in the deaths of over 40,000 Gaza residents, leading to a humanitarian disaster.

When the Gaza conflict broke out, I had been living in Boston since September 2023, utilizing Sophia University's sabbatical leave, serving as a Visiting Scholar at Harvard University's Japan-U.S. Program. I was planning to stay in New York for two weeks later that month to give lectures at the UN headquarters on the humanitarian crisis in Afghanistan and at the City University of New York on the challenges in ending the war in Ukraine. I also planned to discuss the Ukraine war, Afghanistan's humanitarian crisis, and peacebuilding in South Sudan with UN officials, but the Gaza conflict broke out just before my trip.

Coincidentally, Mr. Abdallah Al Dardari, who had invited me to Afghanistan as Senior Peacebuilding Consultant in February 2023, became the Director of the Arab Affairs Bureau at UNDP Headquarters in New York in May 2023. He was tasked with overseeing Gaza's reconstruction. After completing my scheduled lectures and research on the Ukraine war, Afghanistan's humanitarian crisis, and South Sudan peacebuilding,

I had the opportunity to dine with Mr. Dardari in New York in the end of October; he asked me to provide expert input on the upcoming UNDP report about the destruction in Gaza. I reviewed drafts of two UNDP reports released in November and December of that year and offered comments that were incorporated into the reports.

When I temporarily returned to Japan in December, I co-hosted a talk at Sophia University on December 22 titled "Ending the Gaza Conflict and Humanitarian Catastrophe" with Prof. Sali Augustine, Chancellor of Sophia University.

I was interviewed by NHK for a program aired on January 23, 2024, on "NHK Morning Show" during the 7 AM slot, where I discussed key issues for a ceasefire in Gaza and proposals for its peacebuilding.

On April 5, 2024, NHK BS aired a one-hour special of "International Reporting" marking six months since the Gaza conflict began. I participated and provided analysis on why the fighting in Gaza has not stopped, what is needed for a ceasefire, and Japan's potential role in the subsequent reconstruction and peacebuilding process. On August 6, 2024, I was invited to the NHK Radio morning news show, to discuss, for about 14 minutes, challenges for ending the war in Ukraine, Japan's role in ceasing the Gaza conflict and reconstruction, and Japan's involvement in peacebuilding in other regions.

Peacebuilding in South Sudan

South Sudan, after gaining independence in 2011, plunged into civil war in 2013. Since the peace agreement in September 2018, a ceasefire has been maintained. I visited South Sudan in 2019, 2023, and again in February 2024. While in South Sudan, I had discussions with key figures such as First Vice President Machar, Foreign Minister Morgan, and Deputy President Taban Dengai, as well as UNMISS's representative, Nicholas Haysom, providing expert advice on sustainable peacebuilding efforts. In addition, I delivered four consecutive lectures on "Peacebuilding and Media" for South Sudan Public Broadcasting Corporation (SSBC) under JICA's support. I lectured to SSBC journalists, directors, and executives, on peacebuilding challenges and how they could create programs to address these issues. As a result, SSBC broadcasted reports three times

on my activities in South Sudan, including my meetings with First Vice President and Foreign Minister and my lectures at SSBC. I was also invited to appear on SSBC's 40-minute interview program, where my peacebuilding proposals were aired. South Sudan's first presidential election is scheduled for the end of 2024, marking a crucial moment for the country's future peace. Engaging in in-depth discussions with South Sudan's leadership and participating in practical program development with SSBC journalists was a significant experience.

Academic Contributions through Research, Publishing, Lectures, and Education

I published my second English book, "Inclusivity in Mediation and Peacebuilding: UN, Neighboring States, and Global Powers" from Edward Elgar Publishing in February 2022. This book was highly praised in a review published in 2024 in the Journal of International Peacekeeping, one of the most widely read journals on peacebuilding and PKO.

Following Russia's invasion of Ukraine in February 2022, I published the Japanese book, "How to End the War in Ukraine" (Iwanami Shinsho) in February 2023. On February 26, I appeared on NHK's Sunday Discussion alongside Foreign Minister Hayashi, where I proposed that Japan, leveraging its G7 presidency, could collaborate with India (the G20 presidency) to bridge emerging and developing countries with the G7, helping to raise global momentum for Russia's withdrawal from Ukraine.

During my tenure as a Visiting Scholar at Harvard University's Japan-U.S. Program from September 2023, I had the privilege of giving 12 lectures across the U.S. and Canada, mainly on the end of the War in Ukraine, peacebuilding in South Sudan, and the humanitarian crisis in Afghanistan. I gave three lectures at Harvard, and through additional discussions at Tufts University, CUNY, University of British Columbia, University of Toronto, and the UN headquarters in New York, I gained valuable insights for my ongoing research. This led to a proposal for my third English book, "Mediation and Peacebuilding in an Age of Division," which I signed a publishing contract with Routledge in early 2024 (the book is scheduled for release in 2026).

In terms of education, I resumed teaching at Sophia University in April 2024, hosting a series of seminars on "Human Security and Peacebuilding" with Japan's leading policymakers and experts. From April, I also became the director of Sophia University's Graduate Program for International Cooperation.

Additionally, as an advisor to the Sophia University Peacebuilding and International Cooperation Research Group, I led a study tour from August 5 to 7, 2024, to the disaster-stricken areas in Iwaki City and Namie Town in Fukushima Prefecture. We learned about offshore wind power and hydrogen energy while engaging with local fishermen and farmers still struggling from post-disaster. This initiative provided a meaningful opportunity to consider SDG-related challenges with students.



On June 14, 2023, together with Amb. Tariq, Special Envoy for Afghanistan of the OIC and non-partisan Japan Parliament Federation on Population in the meeting which Prof. Higashi organized.



Visit to the Mainichi Broadcasting System Headquarters Rokko Junior/Senior High School

Rokko Junior/Senior High School is implementing an initiative known as a junior high school graduation research for third-year junior high school students. This initiative is aimed at cultivating students' interest in society and the world and helping them realize that their studies contribute to improving society. The school also conducts fieldwork for second-year junior high school students more than 10 times a year.

This program entails visits to companies, research institutes, and government offices, interactions with the people who work there, and participation in various tours and experiences. Here, the students' visit to the Mainichi Broadcasting System (MBS) headquarters that took place on August 7, 2024 is used as an example.

During a discussion with MBS employees, a correspondent who covered the referendum on the independence in East Timor in August 1999 shared their experience. While 78.5% of the voters voted in favor of independence from Indonesia, after that, acts of destruction and violence by militias and other anti-independence groups increased sharply, and the security situation in the area rapidly deteriorated. During their coverage, this correspondent also received multiple death threats, with perpetrators warning, "If you continue reporting, we'll kill you."

The correspondent said they felt genuine anger at "ignoring the will of the people, as nearly 80% were in favor of independence, and using violence to get what they want." Students were deeply impressed by the correspondent's determination and intensity to engage with the media. I was very impressed by their determination and power to engage with the media.





GOAL 17: PARTNERSHIPS FOR THE GOALS

Strengthen the means of implementation and revitalize the global partnership for sustainable development



Collaboration Program with Yakumo Town, Hokkaido

Yakumo Town is located in the southwest of Hokkaido, facing two seas, the Pacific Ocean and the Sea of Japan. Primary industries such as agriculture, dairy farming, and seafood are thriving there, and the town has been attracting attention in recent years as the birthplace of Hokkaido's wooden bear carvings. In addition, the Hokkaido Shinkansen's Shin-Yakumo (tentative name) Station is scheduled to open at the end of fiscal 2030.

Yakumo Town and Sophia University annually implement an extracurricular outreach program called the Yakumo Town Collaboration Program. This hands-on educational program began in 2015 with the idea and support of Takeshi Okawara, a graduate of Sophia University who is now the CEO of DELSOLE Corporation and the chairman of the Honobono Sports Council.

Through interactions with the people of Yakumo, Sophia University students learn about the town's industry, culture, and history. Through direct experiences, they also learn about Yakumo and Japanese industries while also considering how Japan and the world should interact and making proposals for the town's development. In 2018, Sophia School Corporation and Yakumo Town signed a partnership agreement with the aim of deepening cooperation for the development of both parties by contributing to the realization of the Sustainable Development Goals (SDGs) with the commonality between the town development that Yakumo Town aims for and the educational philosophy that Sophia School Corporation upholds.

In 2023, 12 students of various nationalities, including Japan, South Korea, China, Taiwan, Thailand, and Mongolia, participated in the three-day, two-night program under the theme "Industry and Education." The program aimed to teach about cultural and regional differences within Japan and promote exchanges between students of different ages through experiencing local industries in different environments and providing outreach classes to junior and senior high school students in Yakumo Town.

Participants learned about the industries in Yakumo Town and issues that they face through tours of a fishery factory, a Shinkansen tunnel, a farm, Funka Bay, a cheese-making experience, and taught a class at Yakumo Junior and Senior High School. They also learned firsthand about the acceptance of foreign technical intern trainees due to declining fish catches, restrictions on exports overseas, and a lack of successors, efforts to promote recycling-oriented dairy farming through robotization due to a lack of successors and human resources at farms, noise issues due to construction work on the Shinkansen line and the decline of local railways, revitalization of the town due to the opening of the line, and issues related to education and further education in Yakumo Town. On the final day, the students gave a presentation to Yakumo Town officials about the challenges and strengths of Yakumo Town that they had felt through the tour and exchange classes, and about their proposals for education and human development in Yakumo Town. Later, they created a report entitled "Proposals for Education and Human Development in Yakumo Town" and submitted it to the municipal government.



Comments from participating students included the following: "The tour of the extremely efficiently managed training ranch made me think that Yakumo Town's pioneering efforts could become a model case for regional revitalization," "It was a valuable opportunity to see how the town is using ingenuity to manufacture and export processed products in the face of various problems such as declining fish catches and a lack of successors and to see firsthand the impact and current situation of China's export restrictions, as well as to actually tour the inside of a processing plant," and "Through this exchange program, I was able to get a glimpse not only of local industry but also of student life and English language learning that was different to my experience growing up in Tokyo. It's not a matter of which is better or worse, but rather that the best revitalization methods vary depending on the region, and I hope that the opinions of students with diverse backgrounds like us from Tokyo have been of some use." In this manner, the students deepened their learning about Yakumo Town through their tours and first-hand experiences.

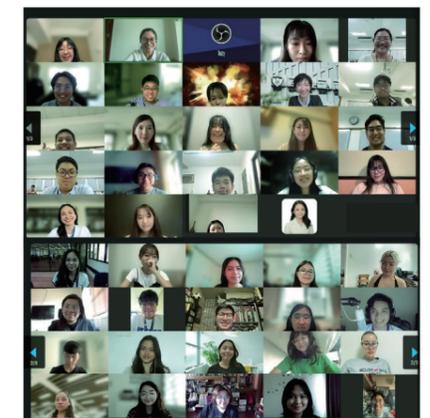
Through future exchange programs, we will continue to deepen our collaboration for the realization of the SDGs and the development of Yakumo Town and Sophia University.

Sophia and Ateneo de Manila Join Forces in COIL Sessions: Exploring Philosophical and Religious Worldviews for a Sustainable Future

Karen Natera (Ateneo de Manila) & Maria Manzon (Sophia)

Through a meaningful partnership that crosses geographical boundaries, students from the Ateneo de Manila University in the Philippines and Sophia University in Japan participated in the Collaborative Online International Learning (COIL) program. This innovative initiative from the AJCU (Association of Jesuit Colleges and Universities) - Asia Pacific brought together students from both institutions to explore the rich and varied philosophical and religious traditions that influence education and sustainability. At Sophia, the COIL sessions were part of the SPSF course "Comparative Education in Asia: Cultures, Histories and Futures", which explores and compares education systems in Asia grouped into six major civilizations: Buddhist, Christian, Hindu, Islamic, Japanese and Sinic.

Two COIL sessions were held on ZOOM towards the end of the Spring 2024 semester. This was to ensure that students had sufficient intellectual preparation through their respective courses for the themes of the COIL discussions. For each COIL session, three experts were invited to each give a 10-minute sharing on a specific philosophical or religious worldview and its influence on education for sustainable futures. An open forum followed where students could ask questions to any of the speakers, using Google docs as a shared platform. After the forum, students were divided into breakout rooms ensuring a mixed group of both Ateneans and Sophians in each team. They discussed their insights on the ways in which the three philosophical or religious worldviews converge in advancing education for sustainable futures. Finally, in the plenary session, each group's representative shared their overall reflections.



First COIL Session with Students from Sophia University and Ateneo de Manila University, June 28, 2024

COIL Session 1: Sinic, Japanese, and Buddhist Perspectives

The first session, held on June 28, 2024, offered students an opportunity to engage with the Sinic, Japanese, and Buddhist worldviews. The three invited experts were Ms. Jennifer Ngo Say of Xavier School, Philippines, Mr. Nopparat Ruankool, M.A., from the University College London and Professor Mikiko Sugiura from Sophia's Center for Global Education and Discovery and International Cooperation Studies at the Graduate School of Global Studies. Their valuable

insights greatly enhanced the discussions.

Under the guidance of Ms. Karen Natera of the Ateneo de Manila University (ADMU) and Dr. Maria Manzon of Sophia University (SU), participants engaged in meaningful dialogue on how these cultural philosophies shape educational practices and contribute to sustainable futures.

Brayden Jansen Ang, another student from ADMU, also shared a similar sentiment,

The COIL sessions allowed me to get a glimpse of education outside our Ateneo bubble. By engaging with students from Sophia University, I got to see that, while some of our practices differ and others do not, in the end we are trying to accomplish the same goal in terms of sustainable education. I personally think that Ateneans need more opportunities like COIL to experience and collaborate with students of different cultures.

COIL Session 2: Christian, Islamic, and Hindu Insights

The second session, held on July 12, 2024, focused on Christian, Islamic, and Hindu worldviews and education. Experts such as Dr. Francis Alvarez from Ateneo de Manila, Professor Cyril Veliath from Sophia University and Professor Zainal Abidin Bin Sanusi of the International Islamic University Malaysia provided insights to enrich the discussions. Students examined how these religious philosophies can come together to promote educational practices that advance sustainability.

Reflecting on the session, Chetna Kashyap, a SPSF student from Sophia University remarked:

The convergence of Christian, Islamic and Hindu perspectives in advancing education for sustainable futures is evident. Christianity's emphasis on serving God through reason and promoting justice fosters environmental stewardship and compassion for creation. Islam's teachings on stewardship (Khalifa) and balanced living (Wasatiyyah) emphasize accountability to God and harmony with nature, encouraging mindful consumption. Hinduism's principles of interconnectedness (Vasudhaiva Kutumbakam) and non-violence (Ahimsa) promote respect for all life forms and sustainable practices. These teachings can develop a mindset that values sustainability and fosters spiritual and emotional well-being.

Building Global Connections through COIL

The COIL program has created a collaborative international learning environment, enabling students to connect with peers of different cultural backgrounds. By engaging with these diverse worldviews, participants are expanding their academic knowledge and contributing to a global community focused on building a sustainable and interconnected futures. As these sessions illustrate, COIL is paving the way for a more inclusive and globally conscious approach to education.



Second COIL Session with Students from Sophia University and Ateneo de Manila University, July 12, 2024



“SDGs, ESG Management, and Sustainability Information Disclosure” Seminar with CEO of Global Reporting Initiative

On October 18th, 2023, Sophia University hosted a seminar titled “SDGs, ESG Management and Sustainability Information Disclosure” featuring Mr. Eelco van der Enden, the CEO of Global Reporting Initiatives (GRI). This seminar delved into critical themes concerning the significance of corporate ESG management, the global trend of sustainability information disclosure, and the role GRI plays in the sustainability reporting landscape. And this seminar was supported by International Development Center of Japan.

The event commenced with a lecture delivered by Mr. van der Enden, titled “The Future of Sustainability Reporting.” Mr. van der Enden introduced the influential actors in the ESG and sustainability reporting landscape, including reporting standards, frameworks developers, rankers & raters, the public sector, financial services, audit and the legal profession, asset owners and managers, and more. The lecture also explored the two pillars of reporting governance structure, single-materiality (focusing on the financial implications of sustainability issues on enterprise value creation) and double-materiality (focusing on both financial and impact materiality which considers a company’s impacts on the environment, society, and the economy).

Following the lecture, Professor Masafumi Hikima moderated the discussion posing two thought-provoking questions: “Why has non-financial reporting become so important?” and “Will double materiality become the global standard?”. These questions prompted participants to think more deeply about the topic.

The seminar’s final phase opened the floor for questions and comments. Participants ranging from students, faculty members to professionals, engaged in an interactive session with Mr. van der Enden. Some of the noteworthy questions raised included inquiries about why Japanese companies particularly emphasize double materiality and the affordable infrastructures available to start-ups and SMEs in the realm of sustainability reporting.

With Mr. van der Enden’s expertise and the active engagement of participants, this seminar provided valuable insights into the evolving landscape of sustainability reporting and left us with a food for thought on the future of ESG and sustainability considerations within the corporate world in shaping a more sustainable future.

<https://diversity-sustainability.sophia.ac.jp/en/efforts/4708/>

