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Sakeology Center, Niigata University



新潟大学
日本酒学センター
Sakeology Center, Niigata University



USHIKI Tatsuo, M.D., Ph.D.
President, Niigata University

The Sakeology Center of Niigata University is a University-wide Organization for Research and Education.

The history of this center goes back to a tripartite collaborative project established in May 2017 among Niigata Prefecture, Niigata Sake Brewers Association, and Niigata University. The collaboration seeks to construct and promote Sakeology as a new academic discipline encompassing the broad-ranging cultural and scientific aspects of sake. Aspiring to become an international hub for Sakeology, Niigata University set up the initial Sakeology Center in April 2018 within the Institute for Research Promotion. After its establishment, the center actively extended its activities beyond the shores of Japan through initiatives such as establishing a collaborative agreement with the Institute of Vine and Wine Science, University of Bordeaux.

In this manner, a university-wide system for Sakeology is being established to draw on the wide-ranging research and education of Niigata University, thereby capitalizing on its strengths as a comprehensive university with ten faculties and five graduate schools. Building on the burgeoning successes of this tripartite collaborative project, Niigata University will live up to its name as an international hub for Sakeology by continuing to work toward education, research, information dissemination, and international exchange to further establish Sakeology as a discipline with our Sakeology Center.

We hope to receive your enthusiastic support and cooperation.



KISHI Yasuyuki, Ph.D.
Director, Sakeology Center

The Sakeology Center, which entered a new phase of life as a University-wide Organization for Research and Education in January 2020, has created an organizational structure by employing faculty members and establishing the three units of “Brewing,” “Society and Culture,” and “Health,” as well as “Promotion Office” to manage the program and its events. In addition, progress has been made in terms of constructing the required facilities, such as sake tasting room, sake test-brewing laboratory, sake and food taste analysis laboratory, analytical sensory evaluation laboratory, and seminar room. On April 1, 2021, the center obtained a Sake Brewing License (experimental brewing), thereby enabling research on sake brewing. As a result, the center continues to strengthen its initiatives for promoting Sakeology. Until now, the center has conducted various activities such as organizing Sakeology lectures for undergraduate students, Sakeology program for graduate students, certificate program Sakeology Professional Program (Sakeology-P1) to train professionals in sake brewing, holding public seminars for local residents, conducting Sakeology symposiums, and establishing collaborative agreements with the University of Bordeaux; the University of California, Davis; the Institute of Enology and Viticulture, University of Yamanashi; and Education and Research Center for Fermentation Studies, Kagoshima University. In the future, we hope to work toward realizing the following: strengthening collaboration with overseas universities, conducting lectures in English, and creating opportunities for international internships. We aspire to become an international educational and research hub for Sakeology and conduct events centered around the pillars of education, research, information dissemination, and international exchange such that Niigata University will be recognized worldwide as the best place to systematically study sake.

We hope to receive your enthusiastic support and cooperation.



What is Sake?

Sake is a product (outcome) of raw materials, a blessing of nature, and technology (wisdom of mankind) born from civilization. Sake is made from rice and water and is brewed by two microorganisms (koji mold and yeast) and human skill. It is produced through a unique brewing process known as “multiple parallel fermentation,” wherein rice starch is broken down into sugar by the saccharification enzyme produced by koji mold, and the sugar is converted into alcohol by yeast in alcoholic fermentation. Historically, the origin of rice-based sake is unclear, but it is estimated that it was produced during the Yayoi period (10th century BC to mid-3rd century AD) when paddy rice was introduced to Japan. The Chinese history book *Records of the Three Kingdoms*, written in the 3rd century, describes the drinking custom in Japan, *Harima no Kuni Fudoki* from the early Nara period (early 8th century) describes sake made from moldy rice, and *Tamon-in Nikki*, which records brewing techniques from the late Muromachi to early Edo period (late 15th to early 17th century), describes the process of pasteurization (heat sterilization). Furthermore, in the late 19th century, sake yeast, the key to stable brewing, was isolated. Subsequently, sake has undergone diverse technological innovations and has come to be produced as we know it today.



Sake Country, Niigata

Niigata is known as one of the leading sake-producing regions in Japan, with 89 sake breweries (as of 2022), the largest number in Japan. This is not only due to the water and rice used as raw materials but also the skills of the people, the organization (Niigata Sake Brewers Association), educational and research institutions, and the rich natural environment and climate suitable for sake brewing.

- ◇ Natural soft water
- ◇ High percentage of Niigata rice (over 90%), including sake rice (Gohyakumangoku and Koshitanrei)
- ◇ Niigata Prefectural Sake Research Institute (the only prefectural institute in Japan specializing in sake)
- ◇ Niigata Sake School (Sake brewing technical training school established by Niigata Sake Brewers Association)
- ◇ Demand promotion activities (“Niigata Sake no Jin,” etc.)

Niigata Sake, produced by making the most of nature’s bounty and with a wealth of knowledge and experience, boasts the third largest taxable shipping volume of sake and largest share of jinjo (high-quality sake) in Japan.

The Birth of Sakeology

Sakeology, the world’s first interdisciplinary academic field on sake, began in Niigata, one of Japan’s most famous sake brewing areas, based on the tripartite partnership agreement. The Sakeology Center, Niigata University was established and has four pillars of activities: education, research, information dissemination, and international exchange.

Four Initiatives of the Sakeology Center



What is Sakeology?

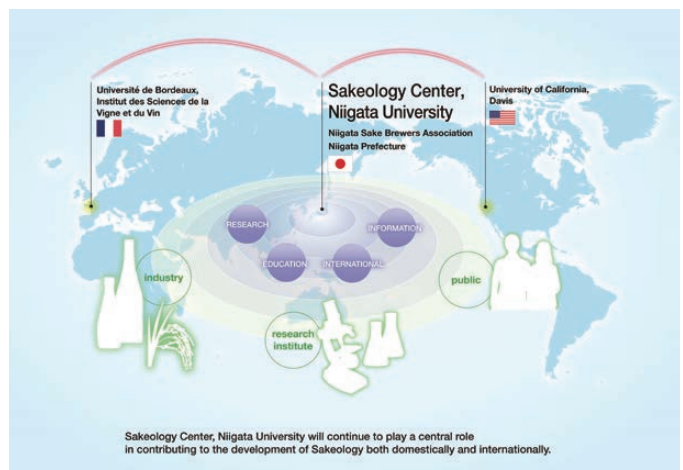
Sakeology is the world’s first “Targeted and Interdisciplinary” academic field that focuses on sake, which is deeply rooted in Japanese culture and tradition, and encompasses broad-ranging disciplines related to it.



Sakeology, an interdisciplinary academic subject focus on sake

Vision for the Sakeology Center

Aspiring to become an international education and research hub for Sakeology



Sakeology Center, Niigata University will continue to play a central role in contributing to the development of Sakeology both domestically and internationally.



Education



Sakeology lectures offer “Interdisciplinary Study” that takes advantage of Niigata University’s strengths as a comprehensive university and “Self-motivated Problem-solving Study” that incorporates practical training and seminars at breweries and sake stores. Through them, the center fosters international human resources who have a broad perspective that goes beyond conventional brewing and fermentation studies, can acquire knowledge and education about sake, a traditional Japanese culture, by learning about it from various perspectives, and can disseminate them domestically and internationally.

Sakeology Lectures

Three lectures (Sakeology A, B, and C) are offered as liberal arts courses for undergraduate students.

Sakeology A

Lectures on the fundamentals and development of a wide range of cultural and scientific disciplines related to sake
The book, *Sakeology Lectures* (published by MINERVASHOBO in April 2022), which summarizes the contents of the very first lecture in 2018, is used as the reference book for the lecture.

Sakeology B

Lectures on practices related to sake for students who are 20 years of age or older and have earned credits for Sakeology A

Sakeology C

Lectures on the latest research in various academic fields related to sake by faculty members of the Sakeology Center



Graduate School Sakeology Program

The Sakeology program* is offered at the Graduate School of Modern Society and Culture and the Graduate School of Science and Technology.
*Master’s program: since April 2022
*Doctoral program: since April 2023

The center imparts education and conducts research that integrates specialized domains in the humanities and sciences with a focus on the subject of sake, thereby adopting content that provides a bird’s eye view of diverse fields, which ranges from raw materials and production to the sale and consumption of sake as well as culture, history, tradition, and health in addition to the students’ areas of specialization.



Online Lectures

Lecture videos of Sakeology in English are available on “Japan Virtual Campus (JV-Campus),” an online international education platform originating in Japan, a project of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).



Educational Exchange based on Collaborative Agreements with other Universities

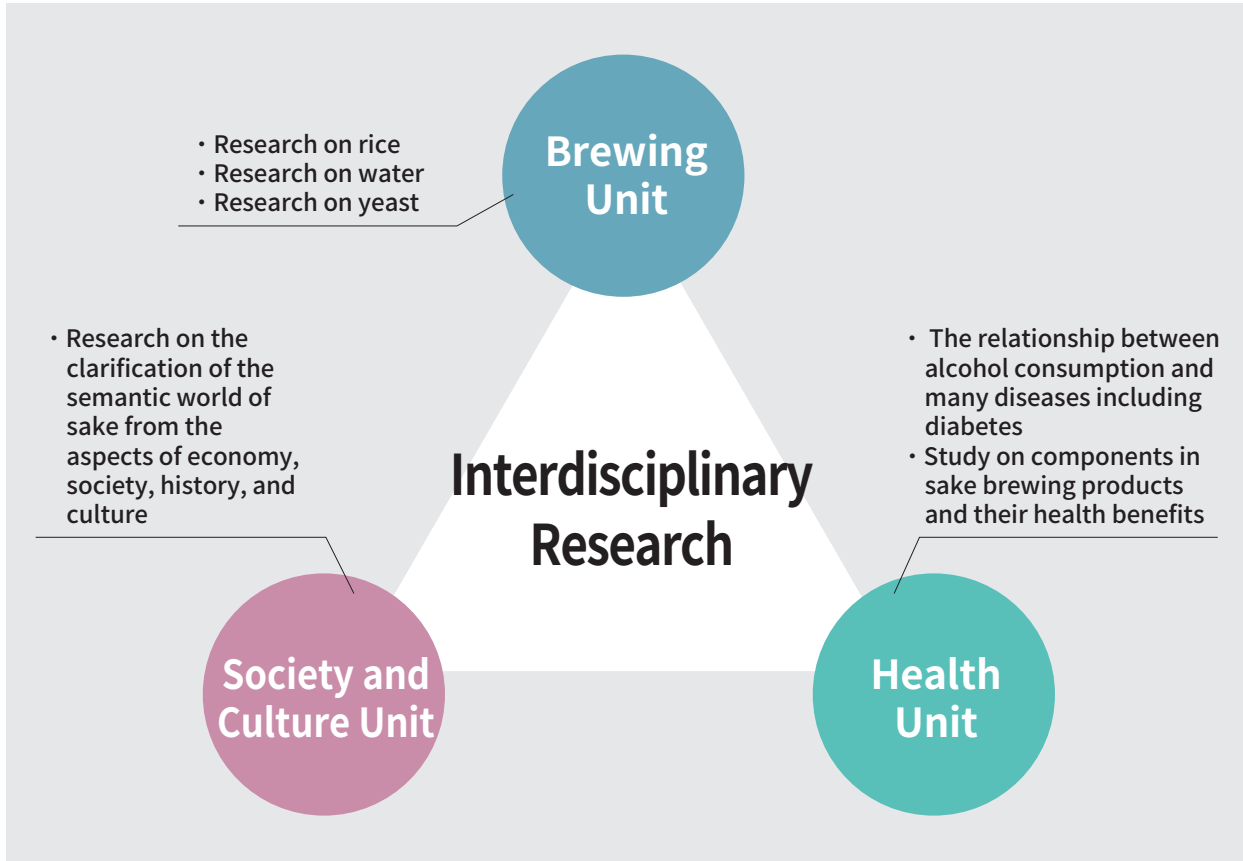
A collaborative agreement was established with the Institute of Enology and Viticulture, University of Yamanashi and the Education and Research Center for Fermentation Studies, Kagoshima University, to promote mutual educational exchanges.



Research



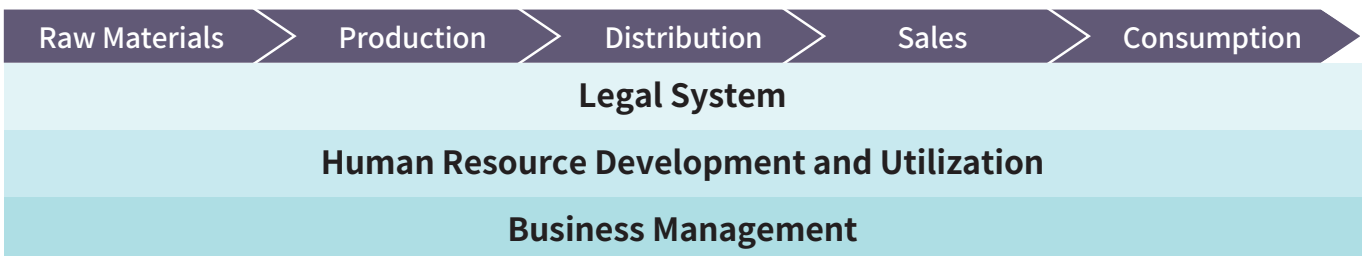
The Sakeology Center consists of three research units: “Brewing Unit,” which conducts research on brewing and sake rice, etc.; “Society and Culture Unit,” which approaches the subject from the perspectives of economy, society, history, and culture; and “Health Unit,” which researches sake in terms of medicine and health science. Furthermore, with this collaboration, the center is promoting interdisciplinary research on sake.



In addition to research by the center’s faculty members, faculty members from various fields are cooperating to deepen interdisciplinary research on sake through mutual collaboration. The center is studying a variety of fields related to sake. The research covers raw materials (water, sake rice, etc.), microorganisms, brewing and fermentation, and distribution, sales, and marketing till sake reaches the hands of consumers. It also covers climate and natural features related to brewing, regional characteristics, such as the Geographical Indication System, history, culture, liquor taxation, brewing equipment, manners, and health effects. Sakeology Seminars are held regularly to deepen interactions among researchers.



Experimental equipment in the “Sake and Food Taste Analysis Laboratory”



Information

To promote broad, accurate knowledge of Sakeology as a systematic science specializing in sake, the Sakeology Center, Niigata University proactively shares information through activities such as symposiums, open lectures, and lectures at regional seminars. Through such activities, we aim to spread awareness of Sakeology from Niigata to all of Japan and the world.

Sakeology Symposium

The Sakeology Symposium is held annually to contribute to the development of Sakeology. It features special lectures by invited outside speakers and introductions to the center's initiatives and latest research.



Japanese Alcoholic Beverage Symposium

Based on the collaboration agreement with the Institute of Enology and Viticulture, University of Yamanashi and the Education and Research Center for Fermentation Studies, Kagoshima University, the Japanese Alcoholic Beverage Symposium is held to develop Japanese alcoholic beverages.



Open Lecture at Niigata University

The center organizes open lectures for the general public to provide lifelong learning opportunities for the local community.



Knowledge-based Tourism of Sakeology: Exploring Niigata Sake

The center received the grants, "Supported by the Agency for Cultural Affairs, Government of Japan, through the Japan Arts Council" (Fiscal Year 2020 and 2022), and created a series of videos and real-experience tours on Sakeology. The videos are available on the center's official YouTube channel.



Niigata Public Lectures

The center conducts special lectures at the Niigata Public Lectures, operated by Niigata Lifelong Learning Center, which aims to provide a forum enabling the use of learning outcomes in the local community.

Lectures at other seminars, etc.

Japan Virtual Campus (JV-Campus)

The videos of "Knowledge-based Tourism of Sakeology: Exploring Niigata Sake" are available on JV-Campus, an online international education platform originating in Japan, a project of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).
<https://www.jv-campus.org/en/>

Official website, YouTube channel, Social media

The center's official website (<https://sake.niigata-u.ac.jp/en/>) provides information on Sakeology. On the official YouTube channel, videos introducing the center's activities and Sakeology are available.



Website



Facebook



X



Instagram



YouTube



International



The Sakeology Center actively promotes ties with other alcoholic beverage research institutes in Japan and abroad. In addition to engaging in research and educational exchange activities in a wide range of fields focusing on natural sciences, especially zymology, the Sakeology Center will contribute to gaining international recognition for Niigata as a renowned sake brewing region.

University of Bordeaux

After a courtesy visit to the Institute of Vine and Wine Science, University of Bordeaux (ISVV), located in the Bordeaux region of France, which is famous throughout the world as a wine-producing region, in February 2018, an inter-university exchange agreement was established between Niigata University and the University of Bordeaux and a collaborative agreement was signed between the Sakeology Center and ISVV in January 2019.

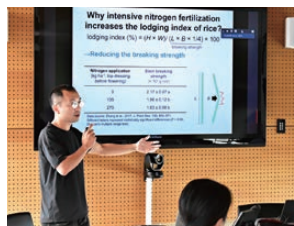
Based on this agreement, summer school organized by the University of Bordeaux entitled “Wine and Sake: The Cutting-Edge of Oenology and Sakeology” is jointly offered.



Photo courtesy:
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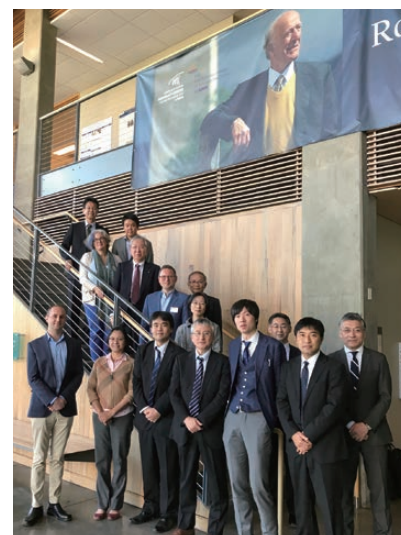


Bordeaux Summer School (FY2022)



University of California, Davis (UC Davis)

After a courtesy visit to UC Davis, which is situated near Napa Valley, USA, and boasts a world-class academic department in viticulture and enology, in October 2019, an inter-university collaboration agreement with UC Davis was established in May 2020 to develop basic scientific and technological research in the two universities and strengthen teaching and learning for the students.



OENOVITI INTERNATIONAL Network

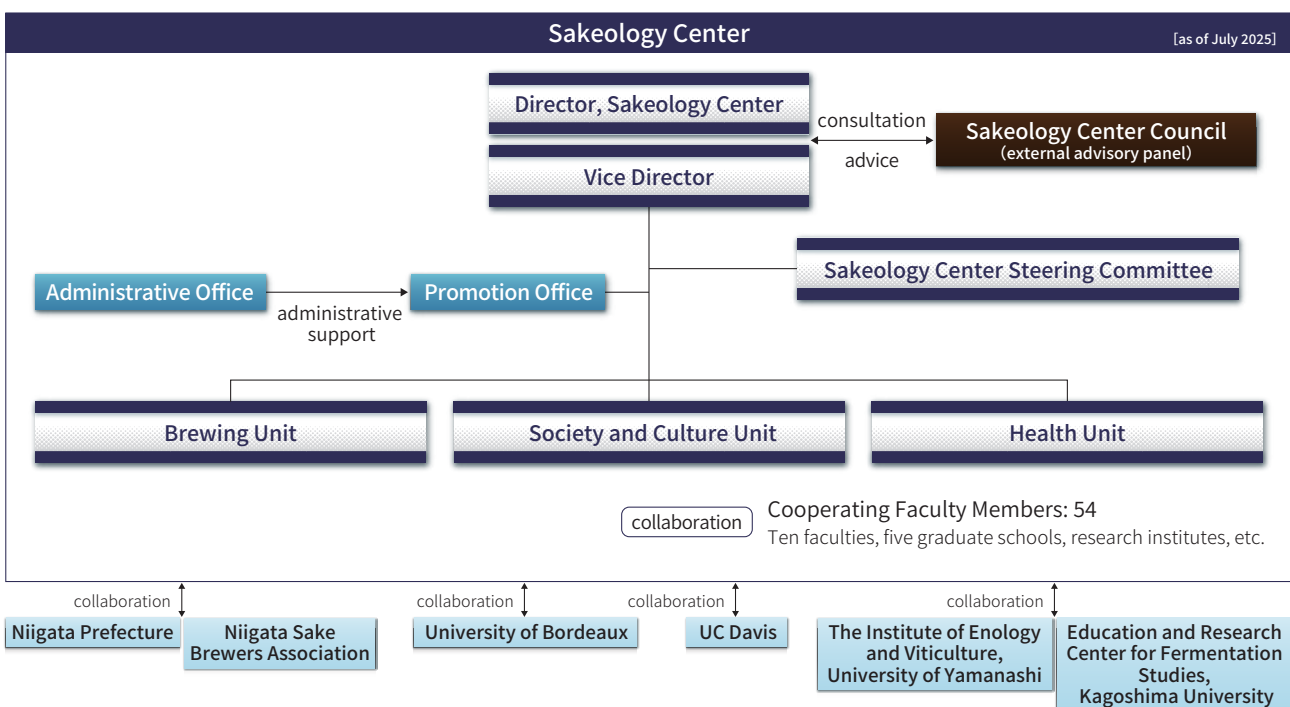
Coordinated by the ISVV, the OENOVITI INTERNATIONAL Network was established in 2010 to develop and extend viticulture and oenology. Its membership comprises approximately 60 research institutes and companies worldwide. The Sakeology Center became a member in January 2019.
<https://oenoviti.com/>

Outline of the Sakeology Center

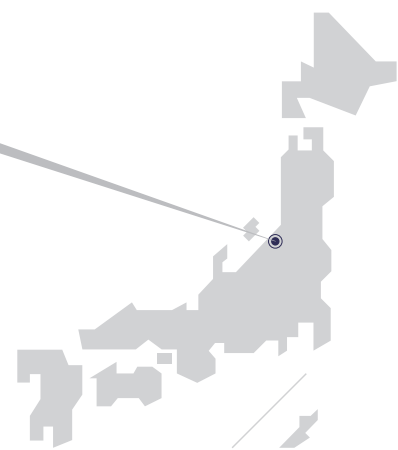
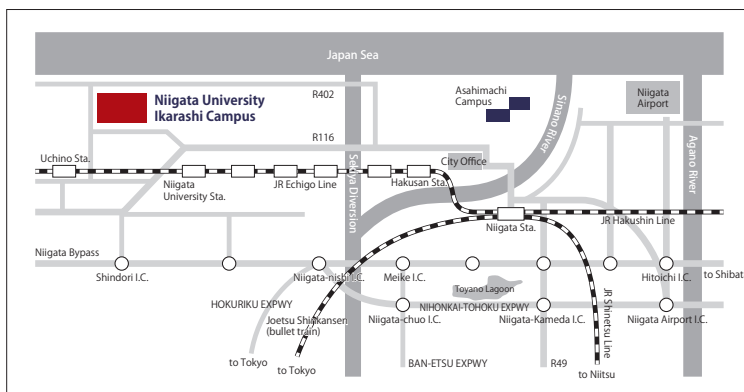
History

2016	September	Since May 2016, faculty members associated with the Faculty of Agriculture and Faculty of Economics had considered the possibilities for Sakeology lectures and research integrating humanities and science subjects. After completing their investigations, in September, a group of interested members visited the Niigata Sake Brewers Association to discuss the establishment of Sakeology as a new academic discipline.
	December	Tripartite discussions were held among Niigata Prefecture, Niigata Sake Brewers Association, and Niigata University.
2017	May	Niigata Prefecture, Niigata Sake Brewers Association, and Niigata University entered into a tripartite partnership agreement.
2018	April	Based on the tripartite partnership agreement, the Sakeology Center, Niigata University was established as a Core Station attached to the Institute for Research Promotion of Niigata University.
2020	January	The status of the Sakeology Center, Niigata University was raised from a Core Station to a University-wide Organization for Research and Education.
2021	April	Opening of Sakeology Center

Organization Structure



Access



Publication date / July 2025

Publisher / Sakeology Center, Niigata University 8050 Ikarashi 2-no-cho, Nishi-ku, Niigata 950-2181, Japan

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