

Autumn 2024

LITTERAE POPULI

A news magazine presented by Hokkaido University



Recent News from Hokkaido University



Litterae Populi

Litterae Populi is a bi-annual magazine with the latest news about Hokkaido University. Its name is Latin for “letters of the poplar trees.”

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Ambition to enlighten the world

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Cover photo taken at Hokkaido University School of
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A brown bear in the Shiretoko Peninsula
(Photo by Masami Yamanaka)

A brown bear with a light-colored patch on its chest and face is standing in a forest of bare, thin trees. The bear is looking to the left. The background is filled with the intricate, tangled branches of the trees, some of which have a few yellow leaves. The lighting is soft, suggesting an autumn setting.

Feature: Coexist

Hokkaido University and Bears

Hokkaido University, which traces its roots to the founding of Sapporo Agricultural College, will mark its 150th anniversary in 2026. Throughout its long history, the University has earnestly addressed both regional and global challenges, continually contributing through education, research, and community engagement.

This special feature, titled “Coexist,” introduces three initiatives addressing a recent issue: coexistence between humans and bears.

Researching Bears

Understanding Bears

Coexisting with Bears

Bounties of mountain and sea sustaining the lives of brown bears

The Shiretoko Peninsula in northeastern Hokkaido, a UNESCO World Natural Heritage site, is home to an estimated 500 brown bears, one of the highest densities of brown bears in the world. These bears thrive on the abundant food sources provided by mountains and the sea. The Rusha area, at the northern tip of the peninsula, is particularly significant for its river mouths, where pink salmon and chum salmon ascend to spawn, creating a high-density habitat of brown bears. Associate Professor Michito Shimozuru of the Faculty of Veterinary Medicine has conducted various studies in the Rusha area for about 15

years, shedding light on the ecology of brown bears.

Associate Professor Shimozuru's research group spent roughly seven years from 2012 studying the diet of brown bears in the Rusha area by collecting droppings and observing bear behavior. From June to November each year, the group collected bear droppings, and they have analyzed 2,079 samples. They found that the bears' diet changes with the seasons: In August, the bears feed on nuts from the Japanese stone pines that grow at high elevations, while in September, they consume salmonids. The research showed that the bears traverse different environments to benefit from mountain and marine resources.

Associate Professor Shimozuru points out that salmon catches have gradually decreased over the past decade,

Researching Bears

Much of bear ecology remains unclear. On the Shiretoko Peninsula, a UNESCO World Natural Heritage site, researchers from Hokkaido University are conducting ongoing studies on the ecology of brown bears, including on what they eat and how to identify individual animals. What do these researchers aim to discover through their work?

Feature:
Coexist

Brown bears living on the Shiretoko Peninsula (Photo by Masami Yamanaka)



likely due to climate change, including warmer ocean temperatures from global warming. Last year, shortages of both salmon and stone pine nuts, coupled with a poor yield of acorns—another important autumn food source—resulted in more bears venturing into human settlements in search of food. As a result, more than 180 bears were killed for management purposes in Shiretoko alone.

Toward better relations between bears and humans

While measures to prevent encounters with bears are necessary, Associate Professor Shimozuru believes it's also important to manage the bear population flexibly. "In Shiretoko, brown bears are recognized as a key element contributing to the area's World Heritage status, so simply reducing their numbers is not a solution," he explains. The gender and age of captured bears can significantly affect future reproduction and population size in the region, but age is not always easy to determine by appearance. Previously, age was estimated by anesthetizing the bear and extracting a tooth, but Associate Professor Shimozuru developed a highly accurate method for estimating bear age from blood samples, based on a technique previously used to estimate the age of other animals from DNA in the blood. In experiments with brown bears, this method allowed for age estimation with a margin of error of about one year. "Previously, we had to anesthetize bears and extract teeth, which put a significant burden on their bodies. Moving forward, I hope to explore whether we can estimate age from DNA obtained not only from blood but also from hair or droppings, and whether this method could be used for other bear species, such as Asian black bears."

Effective bear management requires scientific



Associate Professor Michito Shimozuru conducts research on brown bear ecology (Photo by Associate Professor Shimozuru Michito)



Japanese stone pines, a mountain tree whose bounty sustains brown bears in the Rusha area (Photo by Yuri Shirane)



A brown bear has caught a fish (Photo by Masami Yamanaka)

knowledge, including an understanding of the food environments that lead to increased bear sightings near human settlements, the bears' habitats, and the age and gender composition of the bear population. Associate Professor Shimozuru looks ahead, stating, "I want to continue using the knowledge we've gained to help foster better relations between bears and humans, with the goal of minimizing conflict while ensuring the survival of bears."

The iyomante (bear spirit-sending ceremony): The relationship between the Ainu people and brown bears



KATO Hirofumi

Professor, Center for Ainu and Indigenous Studies, Hokkaido University

The Ainu, the Indigenous peoples of Hokkaido, traditionally lived as hunter-gatherers and regarded animals that were deeply involved in their daily lives as "gifts bestowed by spirit-deities." Among these animals, brown bears held the highest status and were referred to in Ainu as *kimunkamuy*, meaning "spirit-deities residing in the mountains." After capturing a bear, the Ainu performed a ritual known as the *iyomante* to return the bear's spirit to the realm of the *kamuy* (spirit-deities).

Professor Hirofumi Kato of the Center for Ainu and Indigenous Studies at Hokkaido University discovered evidence of the *iyomante* ritual in the form of a brown bear

cranium with a large hole in the parietal bone during an excavation at the Ikushina-Kita Kaigan Site in Shari Town on the Shiretoko Peninsula. According to tradition, Ainu crafted a ceremonial decoration called an *inaw* (stick) by peeling the bark of willow or dogwood trees and shaving it into a thin, tuft-like shape using knives. This *inaw* stick, which served a purification function, was inserted into a hole made in the bear's cranium and was displayed on an altar until it naturally decayed. Professor Kato explains, "The Ainu have a cyclical philosophy: By respectfully sending the spirit of the bear, which is a gift from *kamuy*, back to the realm of *kamuy* through the ceremony, they ensure that the bounties of the mountains will return to them in the future."

Regarding the relationship between humans and brown bears, Professor Kato comments, "For the Ainu, nature, including brown bears, is something to be treated with respect and dignity. They believe that humans live as part of an interconnected relationship with nature. In light of the bear-related issues that have arisen across Japan, I feel that now is the time to reconsider the relationship between humans and the natural world, including animals."



Former *Kumaken* leader Taiga Yamamoto (left) and current leader Moe Sakai diligently look for traces of brown bears

Understanding Bears

Hokkaido University has a student group called the Brown Bear Research Group, also known as *Kumaken*. It studies the ecology of brown bears living in Hokkaido. They have single-mindedly followed the traces of brown bears for more than half a century. What have they uncovered through their steady efforts?

Feature:
Coexist

Tracking the traces of brown bears for more than half a century

“*Poi-po-i, poi-po-i*”—the chant of *Kumaken* members echoes through Hokkaido University’s Teshio Experimental Forest in Horonobe Town, located about 300 km north of Sapporo, near the northern tip of Hokkaido. Clad in hiking gear, the students push their way through undergrowth as tall as they are while repeating their chant. This “*poi-po-i*” serves the same purpose as a bear bell, alerting bears to the presence of humans as the group enters the forest to conduct research. This chant has been passed down for generations within *Kumaken*. After chanting, the students continue their trek, listening carefully for signs of wildlife around them.

Founded in 1970, *Kumaken* conducts research on brown bears in Hokkaido, including in the suburbs of Sapporo. The Teshio Experimental Forest is a research site they visit annually. The students follow predetermined routes, searching for bear tracks, droppings, claw marks, and signs of feeding. At the same time, they count and examine the nuts, berries, and fruits that serve as food for

the bears. Instead of making direct contact with the bears, they diligently study the traces left behind in the mountains to better understand their ecology.

Being omnivores, bears produce droppings that vary in contents—such as digested berries, fruits, grass, and insects—giving each sample a distinct appearance. Taiga Yamamoto, a former leader of *Kumaken* and a third-year student at the School of Law, explains, “We collect all bear droppings as samples, rinse them, and preserve their contents in alcohol to analyze the bears’ diet.” Last summer’s survey revealed that most of the bear droppings they collected contained very few seeds from berries and fruit. Last year saw poor yields of nuts, berries, and fruit in the mountains nationwide, and bears in Teshio also appear to have had difficulty finding enough food. The food shortage led to a significant increase in bear sightings near human settlements, which became a major social issue across Japan last year. Yamamoto notes, “During the transitional period between late summer and the autumn harvest, or in years of poor yields of berries and fruit, it seems that bear droppings containing dent corn used for livestock feed have increased.” All these records on bear ecology have

been carefully preserved since *Kumaken*'s founding. Led by former *Kumaken* members, the group compiled 40 years of data, including on bear droppings and footprints, and published their findings in an academic paper in 2021.

Understanding and appropriately fearing bears

During its decades of research, *Kumaken* has never had a single bear-related incident. Before new members begin their first survey, they must review bear safety manuals and learn how to use bear spray. Before surveys, including those on bear dens, study sessions are held to pass down knowledge and safety measures from one generation to the next. Yamamoto emphasizes, "The most important thing is to avoid encountering bears. We make sure no one ever acts alone in the mountains; we only go after sunrise and avoid entering when visibility is poor, such as in fog." During the surveys, if they discover fresh bear signs—like footprints with small, distinct claw marks as well as mud splattered around; or large, cylindrical droppings—they immediately turn back.

Yamamoto has sighted brown bears several times during his research. The first time was in his freshman year when he was about to turn a corner on a mountain path and suddenly felt a senior student pull him back by his backpack. As they slowly backed away and looked carefully, they spotted a bear about 200 to 300 meters ahead. When they called out "*poi-po-i*," the bear noticed them and ran away, and they backed away slowly as well. "Honestly, it was terrifying," Yamamoto recalls. "Since then, I've been much more cautious to avoid encountering bears." Last year saw



The seven tools essential for their fieldwork

Kumaken's research records have been preserved for more than half a century



a rise in public interest in bears across Japan, with frequent sightings not only in Hokkaido and the Tohoku region, but also in Tokyo. Yamamoto paused for a moment before addressing how society at large can navigate its relationship with bears: "It's a difficult issue, and it's hard to generalize. Personally, however, I think we should understand bears and fear them appropriately. By doing so, I believe many incidents can be prevented."

Moe Sakai, this year's leader of *Kumaken* and a third-year student in the School of Science, said with a sparkle in her eyes, "What I love about *Kumaken* is that, no matter how simple a question may be, the group values the spirit of inquiry and gives us the freedom to engage fully in our research. I hope we continue to share our knowledge about bears and become even more dedicated to fieldwork while honoring our traditions."



Scan the QR code to watch a video introducing Teshio Experimental Forest, *Kumaken*'s field base

From a discovery during club activities to the publication of a paper



KATSUSHIMA
Hinako

3rd year, Doctoral course,
Graduate School of
Environmental Sciences,
Hokkaido University

Kumaken has produced numerous researchers over the years. One of them, Hinako Katsushima, is currently in a doctoral program, focusing on olfactory communication among bears. She dedicates herself to fieldwork every day, setting up cameras in forests to observe the scent-marking behavior known as "tree-rubbing," where bears rub their scent onto trees. She also collaborates with zoos and other institutions, collecting samples to study the chemical compounds released by bears. "Ultimately, I want to understand how mammals, including humans, live their lives guided by scent," she says, with an unwavering curiosity.

In April 2017, when Katsushima was a second-year undergraduate student, her fellow *Kumaken* members discovered bear scat containing the fur, claws, and teeth of a cub. Near the scat, they also found footprints likely belonging to an adult male bear. The students hypothesized

that these traces might be evidence of infanticide, in which a male bear kills a cub to bring the female into estrus as part of a mating strategy.

A few years later, Katsushima was inspired by a senior member's words: "Even a single rare discovery is significant." Motivated by these words, she pursued further research. In December 2022, alongside Taiki Ito, at the time a second-year master's student in the Graduate School of Humanities and Human Sciences, and other fellow researchers, she co-authored the paper *Infanticide or Predation? Cannibalism by a Brown Bear in Hokkaido, Japan*. It reported what is thought to be the first documented case of infanticide by a brown bear in Japan.

During her time in *Kumaken*, Katsushima spent countless hours walking through the mountains, immersing herself in meticulous research. She found traces of bears many times, feeling both fear and a desire to learn more. Repeatedly, she experienced the joy and awe of feeling connected to these creatures. She expressed her desire to continue her research, focusing on both the value of the natural environments where bears thrive and the challenges posed by bears' ventures into urban areas.



Teeth and claws (right) found in bear scat, and a skull specimen of a bear cub for comparison (left)



Toshio Tsubota, Director, The Hokkaido University Museum / Professor, Faculty of Veterinary Medicine, Hokkaido University (at The Hokkaido University Museum)

Some species of bears around the world are on the brink of extinction due to climate change. Leading bear researchers are continuing their research in Japan and abroad, working tirelessly to make valuable scientific information about brown bears useful to society. How do researchers at Hokkaido University view the coexistence of bears and humans?

Chasing polar bears

Professor Toshio Tsubota of the Faculty of Veterinary Medicine, who also serves as the director of the Hokkaido University Museum, visited Churchill, a city in northeastern Canada that is often referred to as a sanctuary for polar bears, in April 2023. The city attracts large numbers of polar bears that gather to hunt seals on the sea ice. After 45 years of bear research, Professor Tsubota boarded a helicopter with his fellow researchers to participate in a polar bear ecological study, his long-held aspiration. He and his fellow researchers scanned the vast sea ice from the helicopter. The pilot spotted what appeared to be animal footprints. As they followed the footprints, they discovered a massive polar bear with yellowish fur. They anesthetized it, took blood and other samples, and attached a GPS tag to its ear before releasing the bear. They collected data on the bear's behavior and ecology, and the analysis of the data is in progress.

Ongoing global warming has begun to affect the ecology of bears, including polar bears. Of the three genera and eight species of bears that exist worldwide, six species are now considered at risk of extinction, making their conservation an urgent issue. In Japan, bears are increasingly encroaching into human settlements. In fiscal year 2023, more than 200 people were injured or killed by bears, and more than 9,000 bears were killed as a result. Professor Tsubota voiced his concern, saying, "The situation of bears globally, including in Japan, is far from ideal. A global shortage of researchers specializing in bears has led to a lack of public understanding and communication to society regarding their populations, habitats, physiology, ecology, and behavior."

In light of these circumstances, Professor Tsubota launched crowdfunding campaigns in 2023 and 2024 to support domestic and international bear ecological research, as well as to nurture young researchers. Both campaigns raised nearly double the target of 5 million yen, allowing for the polar bear study to be carried out. "The response exceeded our expectations; I was surprised by how many people are interested in bears," Professor Tsubota remarked. "We're using the funds not only for research but also to raise public awareness about bears."

Coexisting with Bears



An ecological study of polar bears in Canada
(Photo by Professor Toshio Tsubota)



An anesthetized polar bear and Professor Tsubota
(Photo by Professor Toshio Tsubota)

For coexistence between humans and bears

Professor Tsubota also serves as the president of the Hokkaido Brown Bear Association, a group composed of researchers and government officials, making scientifically informed recommendations for the Hokkaido Government's brown bear management measures. Regarding the implementation of the Hokkaido Brown Bear Management Plan formulated by the Hokkaido Government, he commented: "I feel that the plan's effectiveness in execution is still lacking. We can accomplish much more by assigning

specialized wildlife officers to each region who can disseminate to local residents accurate knowledge about brown bear ecology and effective control measures."

When asked what can be done to achieve coexistence between humans and bears, Professor Tsubota said, "Expanding scientific knowledge about bears and widely sharing it is essential both for conserving bears and for establishing proper relations between humans and bears. I'm committed to continuing my research without pause, working toward a future where both can live together."

Hokkaido University



Bears you can meet at

The Hokkaido University Museum, on the Sapporo campus, allows visitors to "encounter" many bears. Exhibits include taxidermy specimens, skulls, and even medicine packaging featuring bears. You might be surprised to find taxidermy displays even in small spaces along the corridors. At the Potolo museum shop, you'll find bear merchandise, including some featuring bear silhouettes. From October 10 to November 30, 2024, the museum hold a Polar Bear Exhibition showcasing skeletal specimens, fur, and more.

A little farther from the Sapporo campus is the Hokkaido University Botanic Garden, which also includes a museum. The taxidermy bear displayed there is truly impressive. When

you visit Hokkaido University, why not go on a bear hunt?

The Hokkaido University Museum (Kita 10, Nishi 8, Kita-ku, Sapporo)
Botanic Garden, Hokkaido University (Kita 3, Nishi 8, Kita-ku, Sapporo)

For details such as visiting hours, please refer to each website.



The Hokkaido University Museum



Botanic Garden, Hokkaido University





Interview with the president

Guest

AKASAKA Yuji

Representative Director, Chairperson / Chief Safety
Officer, Japan Airlines Co., Ltd.

Japan Airlines Co., Ltd. (JAL), a leading Japanese airline, signed a collaboration agreement with Hokkaido University in 2022. The current chairperson, Yuji Akasaka, is a specialist who has been at the forefront of the engineering and maintenance division since joining the company, ensuring aircraft safety. During his tenure as representative director, he led the company through the pandemic and continues to work toward achieving carbon neutrality in the airline industry.

President Kiyohiro Houkin, who is driving reforms to make Hokkaido University an unparalleled institution, interviewed Akasaka about the reasons behind his decision to pursue a career in the airline industry, his attachment to his birthplace of Hokkaido, and his vision for the future.

Creating new value through
collaboration between the airline
industry and academia

From designing to operating airplanes

Houkin: You lived in Sapporo until high school. Did you have any experiences during childhood that eventually led to your current career?

Akasaka: As a child, I played baseball in the summer and went skiing in the winter. If anything was even slightly connected to my current career, it would probably be the ski jumping I used to do at the Araiyaama Ski Jump Ground.

Houkin: That's exactly related to "flying."

Akasaka: I majored in aeronautics at university, and my graduation thesis was on ski jumping. I was into model airplanes (U-Control) as a hobby, and I started thinking about designing airplanes for a living when I was a second-year high school student. When I looked into where I could study aeronautics, I was disappointed to find that Hokkaido University didn't offer such a program, which was quite a shock.

Houkin: That's why you went on to study at the Faculty of Engineering at The University of Tokyo. When you started job hunting, were you aiming for Japan Airlines (JAL) from the beginning?

Akasaka: No, not at all. My research was in design, specifically in aerodynamics, so I was actually considering heavy manufacturers or similar industries. Many other students in my lab were aiming for positions at automotive companies.

Houkin: Come to think of it, JAL isn't a company that makes airplanes.

Akasaka: I had almost settled on the heavy manufacturing sector, but in August 1985, the JAL Flight 123 crash on Mt. Osutaka occurred. That incident made me decide to join JAL because I felt that something needed to change in the airline industry.

Houkin: I would think that such an accident might lead people to develop negative feelings toward JAL and avoid choosing the company. What were your thoughts at that time?

Akasaka: I saw the accident as a serious problem for the entire airline industry. Although my studies focused on designing airplanes, I realized that unless those operating airplanes did their part properly, the demand for airplanes itself could plummet. I also thought that I might be able to help make airplanes safer and more beneficial to society by joining the operational side. In that sense, my decision to enter this industry was quite coincidental.

Houkin: Given that perspective, it seems almost inevitable to me that you ended up in the engineering and maintenance division. Could you tell me how your



Safety is the foundation of the airline industry, so the engineering and maintenance division is truly at the front lines.

– Dr. Houkin

career progressed from there?

Akasaka: I started by replacing faulty airplane parts on-site, then moved on to planning how maintenance should be structured, and eventually to quality control. The longest phase of my career was in what is known as "reliability management," where I was responsible for studying how many flight hours should elapse before parts are replaced, as well as developing systems to minimize human error.

Houkin: Safety is the foundation of the airline industry, so you were truly at the front lines. Airplane mechanisms are highly complex, and even the smallest maintenance oversight can lead to accidents. I imagine it's an incredibly high-pressure job.

Akasaka: That's true, but recently, airplanes have gained the ability to detect malfunctions on their own. This is part of a field known as "predictive maintenance," which has undergone dramatic changes with the introduction of AI. That said, the experience and intuition of seasoned technicians remain indispensable.

Carbon-neutral initiatives

Houkin: In the medical field where I come from, we've struggled to extricate ourselves from a hierarchical



Overcoming the unprecedented pandemic has become a significant asset for the company.

– Mr. Akasaka

structure dominated by doctors. In the airline industry, I get the sense that pilots are often seen as being at the top. Is it uncommon in the industry for someone like you, who rose through the ranks in the engineering and maintenance division, to reach the top position of chairperson?

Akasaka: Airlines have traditionally been divided into management and operational divisions. In the past, corporate management was handled primarily by those on the management side, who focused on how to run the company. However, that divide is gradually disappearing. Because safety is the most critical element in airline management, there's a growing need to incorporate the knowledge and values of safety held by the operational side into corporate management.

Houkin: You were president during the height of the pandemic, which was an extremely challenging time for the airline industry. Looking back now, how do you feel about that period?

Akasaka: There were times when we had almost no revenue, and honestly, it felt like I was holding my breath the entire time. But I knew the pandemic would eventually end, so we just had to endure until that point. I devoted myself to preserving our resources and assets so we could survive that difficult period.

Houkin: I haven't faced a major crisis in university management. When situations become uncertain, people tend to feel unsettled. I imagine leading the company during such a time must have been incredibly challenging.

Akasaka: With planes grounded, there was no work to be done. Some employees told me they felt like they weren't contributing to society. For the first time, we sent more than 2,000 employees on loan to other companies. Their valuable contributions in those roles showed them they were still making a difference, which I thought was great. Everyone did an excellent job.

Houkin: Human resources are the lifeline of any organization, aren't they? While airlines were hit by the pandemic, they also faced the major challenge of achieving carbon neutrality. The goal of becoming carbon neutral by 2050 is indeed ambitious. We're also increasingly aware of Scope 3 emissions, as the CO₂ emissions generated by the flights we take are part of the airline's overall carbon footprint. What are your thoughts on these challenges?

Akasaka: Achieving carbon neutrality is recognized as a major challenge. The airline industry accounts for 2% of global CO₂ emissions. One-fiftieth of total emissions is a significant figure. Unless we immediately advance the production of sustainable



aviation fuel (SAF), the commitment of Japan's airlines will be called into question. Since achieving carbon neutrality requires efforts across numerous sectors, as president, I frequently consulted with people from various industries, including forestry and manufacturing.

Houkin: That's very insightful. In the medical industry, producing materials for endoscopic equipment, for example, generates significant CO₂ emissions. Whereas the airline industry accounts for 2% of global emissions, the medical industry accounts for 4%. Zero-carbon initiatives are also necessary in the medical industry, but when we consider patient safety, we can't afford to cut corners. In that sense, the medical industry should strengthen the kind of approach JAL is taking while balancing safety and sustainability.

Akasaka: Absolutely, this is a challenge that's common to all industries.

JAL's collaboration with Hokkaido University and his attachment to Hokkaido

Houkin: Since JAL and Hokkaido University signed a collaboration agreement in June 2022, I've had

valuable experiences, as we've worked together on various activities. For example, we're grateful that data gathered from aircraft has been used for climate change research at our university. What are your thoughts on collaborating with academia?

Akasaka: I believe the most important thing is how we utilize data. For example, we attach cameras to planes operated by Hokkaido Air System Co., Ltd. (HAC), a subsidiary of JAL, to gather data on oceanic changes in Hokkaido's waters. However, if we collaborate with a private company, there's a possibility that the data might remain confined to that company. By having the university to handle the data in an open environment and to invite broader academic use, however, I think we can increase the value and broaden the scope of the initiative.

Houkin: Universities are well-suited for sharing data, so we're very grateful that the data can be utilized in this way. I'd also like to hear your thoughts on community engagement. Even with the expansion of the bullet train network, air transportation remains essential in Hokkaido. How do you view the relationship between airlines and communities?

As new industries take shape,
New Chitose Airport will become
an important international hub.

– Dr. Houkin

HOUKIN Kiyohiro

President, Hokkaido University

Born in Hokkaido in 1954. Graduated from Hokkaido University School of Medicine. Doctor (medicine) (Hokkaido University). Worked for Hokkaido University Hospital and other facilities since 1979. After working as a visiting researcher at the University of California, Davis, became an assistant professor at the Hokkaido University Graduate School of Medicine in 2000, professor of Sapporo Medical University School of Medicine in 2001 and professor of the Hokkaido University Graduate School of Medicine in 2010. After becoming the director of Hokkaido University Hospital and vice executive president of Hokkaido University in 2013, and the director of Hokkaido University Hospital and vice president of Hokkaido University in 2017, assumed the present position in October 2020.



Akasaka: If people leave regional communities, the number of air travelers will decrease, so maintaining the regional economy and society is crucial for airlines. I believe Hokkaido University plays a significant role in addressing Hokkaido's challenges, and if we can contribute in any way, it will be highly meaningful.

Houkin: For example, HAC is a lifeline for the region. It's indispensable also for healthcare workers traveling throughout Hokkaido to support regional medical services.

Akasaka: For us, HAC serves as a way to raise an important question: How should Hokkaido's transportation system be restructured for the future? With Hokkaido Railway Company scaling back its rail service, we need to rethink how people live in such a vast region like Hokkaido. I believe we need a collective effort to redesign the entire transportation landscape.

Houkin: With Rapidus Corporation planning to build a new plant in Chitose, the city is becoming increasingly connected with the aviation and semiconductor industries. I believe that over the next 10 to 20 years, New Chitose Airport could develop into an international hub. What's your vision for the future

relationship between Hokkaido and the aviation industry as new industries take shape?

Akasaka: We need to develop Hokkaido's resources, such as energy, food, and tourism, into means of addressing societal challenges. In that context, we believe that infrastructure centered on aviation is crucial. Ideally, we'd like to expand international routes from New Chitose Airport; and if the airport alone isn't sufficient, we aim to establish a global network centered on airports across Hokkaido.

Houkin: It's still just a dream, but a realistic one, and I believe New Chitose Airport will be at the heart of it. Personally, I love airports—the thrill of watching people arrive and depart. It's something that truly excites me. I must say, I'm a bit envious of your work. How do you feel about it?

Akasaka: Well, without that excitement, it might be hard to keep going (laughs). But I want to make the whole region exciting, not just airplanes. I believe Hokkaido holds a lot of potential.

Houkin: As Hokkaido is your birthplace, I hope you'll continue to contribute to its future. Thank you very much for your time today.



I believe we need to develop
Hokkaido's energy and food
resources into means of addressing
societal challenges.

– Mr. Akasaka

AKASAKA Yuji

Representative Director, Chairperson / Chief Safety Officer,
Japan Airlines Co., Ltd.

Born in Hokkaido in 1962. Earned a degree from the Department of Aeronautics in the Graduate School of Engineering, The University of Tokyo. Joined Japan Airlines Co., Ltd. in 1987. Built his career in the engineering and maintenance division and was appointed managing executive officer of the company and senior vice president of the Engineering & Maintenance Division in 2016, while also serving as representative director and president of JAL Engineering Co., Ltd. Advanced to representative director and president of Japan Airlines in 2018, and served as representative director and president of Japan Airlines and chief executive officer of the JAL Group from 2023. Has been representative director and chairperson of the company since 2024.



Spreading the appeal of fermented foods worldwide

Representative of KamoShika Fermentation Kyoto Inc.

SEKI Megumi

| School of Economics and Business Graduate |

Megumi Seki is the founder and representative of KamoShika Fermentation Kyoto Inc., a fermentation restraint and food manufacturing in Arashiyama, Kyoto. She says, “Since Japan is a pioneer in fermentation, I want to spread the appeal of fermented foods not only within Japan, but also abroad.” She shared how her time as a student at Hokkaido University and other life events have led her to pursue that aspiration.

—You’re originally from Kyoto. What was your childhood like?

I grew up in the rural countryside of northern Kyoto Prefecture, surrounded by nature. I often ran around playing with my slightly older brother. My family ran a pharmacy, and my grandfather was the head priest of a Buddhist temple. Growing up in that environment shaped my interest in healthcare and entrepreneurship, my views on life and death, and ultimately my current work.



Seki develops and sells specialty products, including *amazake* dressings (made with fermented rice), *natto* with *koji* (fermented soybeans with rice malt), and *nukadoko* (fermented rice bran beds for pickling)

—What was your student life like at Hokkaido University?

I chose the School of Economics and Business because I wanted to start my own business in the healthcare field someday. To be honest, my university life was somewhat disappointing at first and I often felt unsure of myself. But a major turning point came when I took Professor Kikui Yoneyama’s class on contemporary society.

When I saw him silently writing “coincidence × coincidence = connection” on the blackboard, I felt like he’d understand what I was struggling with. I visited his lab right after that. Through our conversations, the frustration I’d been feeling turned into hope. Without Professor Yoneyama, I wouldn’t be who I am today. Meeting the mentor of my life was the greatest reward from my time at Hokkaido University.

—Could you tell us about your experience in Sweden?

Thanks to Professor Yoneyama’s efforts, Hokkaido University signed a student exchange agreement with the University of Gothenburg, and I was the first Hokkaido University student to study there. Although I struggled with the language because there were very few Japanese students, I had a great time. During my stay, I conducted fieldwork at welfare facilities and was struck by how much more advanced they were than those in Japan. After returning to Japan, I conducted further research at welfare facilities in Sapporo and wrote my graduation thesis comparing the systems in both countries.

—What led you to establish the company centered around fermentation?

After graduating, I gained experience at a medical consulting firm in Tokyo, among other places. The Great East Japan Earthquake of 2011 became the next turning point for me. Watching the nuclear disaster unfold, I realized that continuing on the same life and career path was no longer an option. I felt the need to return to the basics and focus on something more essential, and for me, that was fermentation. I came to believe that the foundation of medicine and healthcare is prevention, and the foundation of prevention is food. And the foundation of Japanese cuisine is fermentation. One of the catalysts for me was when I made miso as a hobby and was deeply moved by the profound nature of fermentation.

—Can you tell us about the unique features of the company and your future plans?

Under the concept of “Life becomes energetic with life -Bringing fermented foods back to the kitchen-,” I focus on running the restaurant, as well as developing, producing, and selling fermented foods. Fermentation is driven by the work of microorganisms. Through fermented foods, I want to convey the power and potential of life, which I personally experienced through childbirth. To do this, people first need to realize that fermented foods taste good, and my restaurant serves as a gateway to that discovery. Moving forward, I hope to share the value of fermentation internationally as well. While Sweden is a pioneer in welfare, Japan leads the way in fermentation.



A meal of eight carefully crafted fermented dishes, prepared using original recipes

—Lastly, do you have a message for students at Hokkaido University?

Being young is a gift in itself, full of possibilities, so I hope you never give up, even in the face of difficulties. Live true to yourself, remembering that who you are today shapes who you will become tomorrow. Strive to live your student life in a way that allows you to look back with pride.

PROFILE

Born in Kyoto Prefecture. Graduated from the School of Economics and Business at Hokkaido University in 2000. After studying in Sweden, completed a master’s program at the International University of Health and Welfare. Worked at companies such as IBM Business Consulting Services KK before founding KamoShika Fermentation Kyoto Inc. in Arashiyama, Kyoto, in 2011. Involved in the food service business, product development and sale, and event production, all centered on fermentation. Has won several awards, including the Grand Prize at the 3rd Kyoto Female Entrepreneur Award (2015) and the Grand Prize at the 12th Culture Venture Competition in Kyoto (2019).

Taisuke Miyaji, currently a first-year master's student at the Graduate School of Agriculture and the founder of the startup PioBeer Co., Ltd., is driven by a passion to ignite a new beer movement from Hokkaido. His journey into producing craft beer began in his fourth undergraduate year at the School of Agriculture. After continuing on to the master's program, he went on to establish his own company. He shared his thoughts on his beer-related activities and his goals for the future.

—What made you aim to enter Hokkaido University?

I grew up in Hyogo Prefecture. As a child, I admired great figures, which might have led me to pursue entrepreneurship. The interest in food security that I developed from high school lessons prompted me to aim for a university where I'd be able to study agricultural economics. I associated Hokkaido with agriculture, and I wanted to gain independence from my parents, so I decided to attend Hokkaido University.

—What led you to seriously pursue beer-related activities?

Because I originally planned to become a farmer, I went to the Netherlands for agricultural training after my third year. After gaining hands-on experience, however, I realized that my true passion lay elsewhere. I reconsidered what I really wanted to pursue, and I arrived at two things: building a beer-focused business and creating beer-centered. My love for beer was already strong, but my immersion in the authentic beer cultures of Germany and Belgium during my time in the Netherlands had a significant influence on me. After returning to Japan for my fourth year, I founded a beer club called "Be Are kids" and joined the Mirai Kaitaku Club. This club is a student organization whose members can learn through seminars and projects things that aren't taught at university. When I shared my thoughts about beer, Professor Tsutomu Tsuchiya, the adviser to the Mirai Kaitaku Club (a vice executive director of the University and specially appointed professor at the Institute for the Promotion of Business–Regional Collaboration), suggested that the club make its own beer. I'd never imagined making beer myself, but his suggestion became the catalyst for us to develop three craft beers before I graduated from undergraduate school. Those beers were offered at events and were sold in limited quantities. While we faced various challenges, such as securing funding, working effectively as a team, and learning the fundamentals of business, I was inspired by the aspirations of my clubmates in the Mirai Kaitaku Club and supported by the guidance of Professor Tsuchiya.

—What led you to decide to start your own company?

As I continued developing beers while thinking about the settings where people would enjoy them, the concept of creating "memorable and special beer" took shape. This gradually strengthened my resolve to start my own business. I made up my mind to create a flagship beer that could be sold year-round, and that's when I finally decided to launch my own company.



The beer club debuted at the Hokkaido University Festival in 2024, serving beer-braised Hokkaido Shorthorn beef

—What do you always keep in mind in your work?

First, to just give it a try. At the Mirai Kaitaku Club, we were taught that practice is essential, and there are many things you can't understand until you actually try them. I also make a point of accepting advice with an open mind and putting it into practice.



Building bonds through memorable and special beers

MIYAJI Taisuke

| 1st year, Master course, Graduate School of Agriculture |

I believe that repeating this process leads to growth. For example, when I founded the beer club, I was advised that it was important not just to have fun, but also to set goals. This led us to organize and successfully hold a large-scale craft beer event. Through that experience, I came to appreciate the best part of working on a team and expanded my network with people in the beer industry in Hokkaido. It was a truly rewarding experience.

—Could you please share your goals for the future?

First, I want to focus on raising awareness of craft beer. My ultimate goal is to create a world where, as I saw in Europe, people can enjoy a wide variety of beers. Beer is a tool for bringing people together.

Thirty years from now, my ideal is to see a culture where people gather around a diverse selection of beers, with conversations like, "How about a stout today?" or "I feel like a wheat beer," instead of just saying, "I'll have the usual draft."



The first-ever year-round flagship beer

—Finally, do you have a message for current Hokkaido University students?

I want them to dive into the things they love. They should set aside thoughts like "I can't do it," or "It's too much trouble," or "What will people think of me," and let their curiosity guide them as they take on new challenges. Once they decide to pursue something, I want them to fully commit. By sticking with it, their resolve will be steered, helping them push forward. I'd be thrilled to see more people continue pursuing what excites them.

PROFILE

Born in Hyogo Prefecture. Enrolled in the School of Agriculture at Hokkaido University in 2019. Currently a first-year master's student in the Graduate School of Agriculture. Developed and sold beer during his undergraduate years that were so popular they sold out. Founded the startup PioBeer Co., Ltd. in June 2024. Engages in the creation and sale of beer recipes, and produces custom beers for companies and government organizations.



A bridge between Hokkaido University and the world

This issue features contributions from Dr. Chris Gosden, who is active as a Hokkaido University Ambassador in the UK, and Dr. Vladana Vukojevic, who is active as a Hokkaido University Partner in Sweden.



Dr. Chris Gosden

Emeritus Professor of European Archaeology, University of Oxford

I have been very honored to become a Hokkaido University Ambassador. As a specialist in archaeology, the connection with Ainu Studies is an important one, as is the link with Archeology through my colleague Professor Hirofumi Kato, Center for Ainu and Indigenous Studies, Hokkaido University.

Through my involvement with Hokkaido University, I have gained a much deeper sense of Japanese culture and history. In the UK, Hokkaido University's profile has been raised considerably through works with Ambassadors and Partners. We in turn have also learned and benefited a lot through this global co-operation.

I am currently finishing a book on global history entitled *Humans: The First Seven Million Years*. This attempts to give a sense of human variety and difference, but also a sense of the things we all share as humans. The most basic shared element, I argue, is our ability to cooperate. I have taken the opportunity to understand the long-term history of Japan and its surrounding regions in greater depth, which has been very satisfying.

My most memorable moment as a Hokkaido University Ambassador was visiting Hokkaido University; meeting colleagues and being able to give lectures. I was also able to visit the National Ainu Museum and various archeological sites.

There are a great range of research initiatives at Hokkaido University, many concerning global connections and forms of working together. The excavations on Rebun Island are also important, both for the training they allow for students and for the discoveries made there. In Archeology and Anthropology, Hokkaido University has established a global reputation, and I think this will certainly grow over the coming years.

Both Sapporo and Oxford are cities with universities in which the university community is important. On the other hand, the difference between the two cities is that Sapporo has better food than Oxford.

I am very pleased to be a member of your community and hope this can continue.





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Dr. Vladana Vukojevic

Associate Professor of Biochemistry, Karolinska Institute

When asked to become a Hokkaido University Partner, I felt deeply honored, and a surge of pride and enthusiasm burst forth. My immediate thoughts centered on the importance of this role in promoting the University's values.

Hokkaido University promotes interdisciplinary research, is committed to sustainability, significantly emphasizes international collaboration, and is proactive in incorporating innovative teaching methods and technologies. In Sweden, Hokkaido University has a very good reputation and is interacting with the universities, Karolinska Institute, the JSPS and the MIRAI – Swedish-Japanese Strategic University Collaboration. Through continued collaboration between Hokkaido University and Karolinska Institute, I aim to enhance the quality and scope of collaborative biomedical research at both institutions.

In my interdisciplinary work, I use advanced analytical methods and integrative mathematical modelling approaches to further our understanding of how molecules are integrated in biochemical pathways through which vital biological functions occur at the cellular level. My collaboration with Emeritus Professor Masataka Kinjo, Hokkaido University (Professor at the Faculty of Advanced Life Science

until March 2022) started in 2007 and continued through Hokkaido Summer Institute (HSI) since its inception in 2016. As an Invited Lecturer, I teach at three HSI courses. Every year, I derive great satisfaction from meeting new students who take HSI courses. Seeing them engaged in analyzing data they have acquired themselves, following theoretical and practical training, is a joyful memory that brings a smile to my face.

For me, interactions with students have been especially rewarding. Students bring fresh perspectives, curiosity, and energy to the academic environment. It motivates me to continuously refine my teaching and find ways to make learning more effective and enjoyable. Knowing that my efforts are helping students to grow and succeed brings joy and a greater sense of accomplishment. A shining example of this is Dr. Sho Oasa, who graduated from Hokkaido University and is now an Assistant Professor at Karolinska Institute. Through our training, he has acquired knowledge and deep understanding of molecular mechanisms and methods for their characterization in live cells. He is making significant contributions to the academic community and is giving back to new generations of students by engaging in HSI courses. This legacy of mentorship and excellence

in research is something of which I am immensely proud and it highlights the enduring value of my partnership with Hokkaido University.

Stockholm, where I live, is spread across 14 islands and crisscrossed by waterways, earning it the nickname "Venice of the North." Sapporo features a mix of modern and traditional Japanese architecture, while Stockholm is known for its historical buildings, like the Royal Palace and the Vasa Museum, and medieval old town, Gamla Stan. Sapporo serves as a rich source of seafood year-round. The similarities between the two cities are that both have cold and often snowy winters, are home to renowned universities and research institutions, and emphasize education and innovation to achieve a high standard of living.

I am continuously inspired by the shared commitment to education, research, innovation, excellence and global collaboration. We are not just advancing knowledge but also building bridges that transcend borders and cultures. To the entire Hokkaido University community, I encourage you to embrace every opportunity to continue pushing boundaries and keep fostering the spirit of curiosity and cooperation. Let us shape together a brighter, more connected future.



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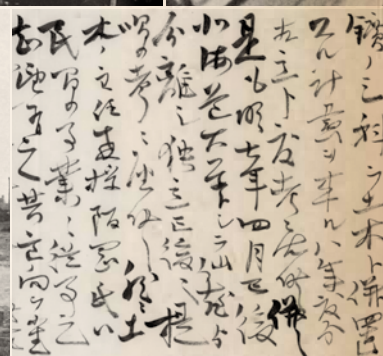
1. Students at HSI course analyzing fluorescence correlation spectroscopy data that they have self-acquired
2. Fields of Hokkaido with mountains on the horizon
3. A serene spot in Sapporo. Blending nature and traditional architecture
4. Fresh seafood from the Sea of Japan, showcasing the culinary richness of Sapporo

150 years of Challenge

SCENE-21

1917-1925

The Establishment of the School of Engineering



President Shosuke Sato's calculations

The establishment of a medical college (which would later become the School of Medicine) required persistent efforts by the local community and a considerable amount of time, as it was closely tied to the move to establish Hokkaido Imperial University as an independent institution. In September 1916, the Cabinet approved the establishment of the medical college financed by donations, which would not put a strain on the public purse. Soon thereafter, Shosuke Sato, president of the Agricultural College of Tohoku Imperial University, began planning the establishment of another college.

Sapporo Agricultural College had a Department of Engineering alongside the Department of Agriculture for the nine years from 1887, during which 16 students graduated with a bachelor's degree in engineering. After the Department of Engineering was abolished in 1896, the Department of Civil Engineering was newly established in 1897 as a secondary vocational institution to teach civil engineering. (In 1902, it was elevated to a vocational school requiring middle school graduation for admission.) The first head of the Department of Civil Engineering was Professor Hideo Kawae, who had graduated in 1895 in the fifth graduating class of the Department of Engineering. He was followed by Professor Suetaro Sakaoka, who had graduated in 1894 in the fourth graduating class of the Department of Engineering.

In September 1917, President Shosuke Sato sent a letter to Hideo Kawae, his son-in-law and the former head of the Department of Civil Engineering. In the letter, Sato conveyed three points: (1) within the next four or five years, he intended to launch a plan to establish a college of science and engineering that would later become a school of science and engineering, (2) he would propose first adding three new departments—Mechanical Engineering, Electrical Engineering, and Mining Engineering—to the existing Department of Civil Engineering, and then elevating them to colleges, after the Agricultural College of Tohoku Imperial University achieved independence as Hokkaido Imperial University in April 1918, and (3) since Suetaro Sakaoka, the current head of the Department of Civil Engineering, intended to leave for the private sector, he wanted to know if Kawae would be willing resume that position. President Sato envisioned expanding the Department of Civil Engineering and using it as a foundation for establishing the College of Science and Engineering, with Kawae as a central figure.

After resigning from his position as a professor in the

Department of Civil Engineering, Kawae worked as an engineer for the Railway Bureau of the Government-General of Korea, and at this time, he was serving as the chief of the Engineering Department at the Gyeongseong Management Bureau of the South Manchurian Railway Company. Judging from the content of subsequent letters sent from Sato to Kawae, it appears that he declined Sato's offer. Meanwhile, Sakaoka continued to serve as director and professor even after the Department of Civil Engineering was reorganized as the Hokkaido Imperial University Civil Engineering Department upon the establishment of Hokkaido Imperial University in 1918, remaining in that position until his death in September 1923.

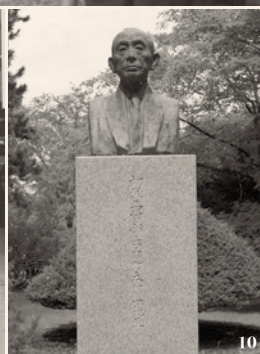
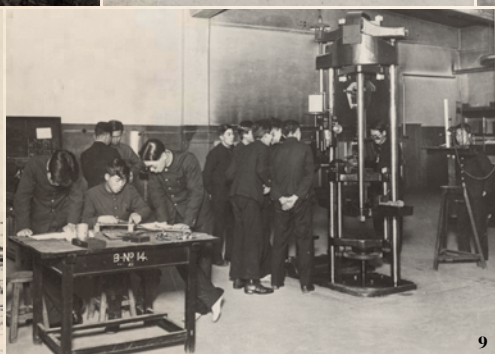
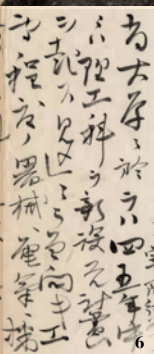
The movement to establish a School of Engineering

Although Sato's plans did not proceed as intended, the movement to expand faculties suddenly gained momentum. In March 1919, the Imperial Diet passed the Bill Concerning Expenses for the Establishment and Expansion of Higher Educational Institutions submitted by the Cabinet of Prime Minister Takashi

“It's often difficult for students who've just entered university as much as possible. For instance, if they're interested in Once they've received that guidance, we aim to give them as line with their aspirations. (Taroichi Yoshimachi, as quoted in The Hokkai

Hara. It outlined a five-year plan starting from 1919 to establish four new faculties at Imperial Universities, create 10 national higher schools and 19 technical colleges, upgrade six technical colleges to single-faculty universities, and expand six existing faculties at Imperial Universities. Among the four new faculties planned for Imperial Universities was the School of Engineering at Hokkaido Imperial University. Unlike the establishment of the medical college, which had relied heavily on donations, the School of Engineering was to be funded by the national treasury as part of a nationwide plan to expand institutions of higher education.

In 1921, a committee of several key figures was convened, tasked with establishing the School of Engineering. They were Seiichi Terano (Naval Architecture), dean of the Faculty of Engineering at Tokyo Imperial University, along with professors Hidetaro Ho (Electrical Engineering), Keisaku Shibata (Civil Engineering), Masao Kamo (Mechanical Engineering), Ryosuke Funahashi (Mining Engineering), and Tadashi Inoue (Mining Engineering, who resigned from his position as a professor



1. Taroichi Yoshimachi, dean of the School of Engineering (around 1932)
2. A field surveying practicum of the Department of Civil Engineering at the Agricultural College of Tohoku Imperial University (around 1910)
3. An aerial view of the School of Engineering's main building (around 1926)
4. Faculty appointees of the School of Engineering gather by the Thames in London (1924)
5. The recently completed main building of the School of Engineering (around 1924)
6. Excerpt from a letter from Shosuke Sato to Hideo Kawae, dated September 4, 1917
7. Hideo Kawae at his graduation from Sapporo Agricultural College (1895)
8. Open house at the School of Engineering (1926)
9. A practicum in civil engineering machinery at the School of Engineering (around 1927)
10. A bust of Professor Taroichi Yoshimachi, the first dean of the School of Engineering, in front of the School (photographed in 2014)

around this time and later became minister of railways), as well as Taroichi Yoshimachi (Bridge Engineering), dean of the Faculty of Engineering at Kyushu Imperial University. Terano initially chaired the committee, with Kamo later taking over, but Yoshimachi played the central role in preparing for the school's establishment.

After his appointment to the committee, Yoshimachi visited Hokkaido Imperial University in August 1921 to inspect the proposed site for the School of Engineering. He recalled, "At that time, the site was a marshy area sloping down from the edge of the School of Medicine grounds, with an abandoned drainage ditch running north to south through thick pasture grass. Here and there stood old elm trees, and I also recall an avenue of poplars. We mapped out the land, being careful not to disturb the trees, and raised flagpoles to mark the site." On this site, they later built the beautiful main building of the School of Engineering, known as the "White Mansion," which remained until it was replaced by the current School of Engineering building in the 1960s.

to know which subjects to choose, so we guide them a career in railways, we recommend specific subjects. much freedom as possible to pursue their studies in Times, July 26, 1924)

The departmental system and flexible course selection

In May 1923, Yoshimachi, who was a member of the committee tasked with establishing the School of Engineering, was also appointed as a professor at Hokkaido Imperial University and traveled to Europe and the United States on an inspection tour. In September 1924, an Imperial ordinance was issued to establish the School of Engineering at Hokkaido Imperial University, and Yoshimachi became a full-time professor and the first dean of the School of Engineering. That school adopted a departmental system that grouped specialized fields into the four departments of Civil Engineering, Electrical Engineering, Mechanical Engineering, and Mining Engineering, with six courses offered: Bridge Engineering, Railway Engineering, Hydraulic Engineering, Electrical Machinery Engineering, Power Machinery Engineering, and Mining Science. Professors were appointed to each course. Shortly before the school's establishment, Yoshimachi gave an interview to *The Hokkai Times* in which he outlined the school's educational policy, saying, "We intend to reform the traditional

system to some extent, allowing students greater freedom in selecting their courses." Rather than having their courses strictly determined by their specialization, students would be able to choose their courses more independently. This approach reflected Yoshimachi's observations during his overseas inspection tour and the reforms at Tokyo Imperial University, as well as his experience at Kyushu Imperial University.

In April 1925, the inaugural class of 92 students, including those from the preparatory course, enrolled, and lectures at the School of Engineering began.



Hokkaido University
HISTORY
1917-1925

1917	September	President Shosuke Sato of the Agricultural College of Tohoku Imperial University informs Hideo Kawae of his plan to establish a College of Science and Engineering.
1918	April 1	Hokkaido Imperial University is established, and the Department of Civil Engineering is reorganized as the Hokkaido Imperial University Civil Engineering Department.
1919	February	The Cabinet of Prime Minister Takashi Hara submits the Bill Concerning Expenses for the Establishment and Expansion of Higher Educational Institutions to the Imperial Diet.
	March	The Imperial Diet passes the bill, approving the establishment of the School of Engineering at Hokkaido Imperial University.
1921	August	Taroichi Yoshimachi, dean of the Faculty of Engineering at Kyushu Imperial University, and others are appointed as members of a committee tasked with establishing the School of Engineering; they hold their first meeting in Sapporo.
1922	April	The preparatory course increases the enrollment of students planning to enter the School of Engineering by 120.
1923	May	Taroichi Yoshimachi, who is a member of the committee tasked with establishing the School of Engineering, is also appointed as a professor at Hokkaido Imperial University.
	December	The main building of the School of Engineering (the White Mansion) is completed.
1924	May	Candidates for professorships at the School of Engineering meet in the suburbs of London.
	September	The School of Engineering is officially established, with Taroichi Yoshimachi inaugurated as its first dean.
1925	April	The inaugural class of 92 students is admitted to the School of Engineering, and classes begin.

Hokkaido University Archives

This facility collects, classifies and preserves historical documents and records of Hokkaido University. It also conducts investigations and research on its history.

01

Hokkaido University signs a comprehensive collaboration agreement with Rapidus Corporation

Hokkaido University and Rapidus Corporation signed a comprehensive collaboration agreement on semiconductor-related education and research on June 5, 2024.

In light of Rapidus' plan to start pilot line operation in April 2025 and mass production in 2027, the agreement aims to promote long-term cooperation on the development of highly skilled professionals and advances in cutting-edge semiconductor research.

Going forward, the University will collaborate with Rapidus on the development of semiconductor facilities, the fostering of semiconductor talent, and the advancement of cutting-edge semiconductor research. Specific initiatives include establishing an evaluation and analysis site for 2-nanometer semiconductors on the Sapporo campus by the end of 2024, as well as promoting research and development projects related to Rapidus and advancing cutting-edge semiconductor research that capitalizes on the unique strengths of the University's research. The plan for the fostering of semiconductor talent includes dispatching Rapidus engineers to the University as practitioner-instructors to deliver lectures, as well as providing opportunities for Rapidus engineers to learn about the university's latest research findings.



The signing of the collaboration agreement



President Houkin (right) and Executive Vice President Yamaguchi (left) answer questions at a press conference

President Houkin (second from left) and President and Representative Director Koike (second from right) holding the collaboration agreement

02

Kick-off symposium held for the Program for Forming Japan's Peak Research Universities (J-PEAKS)

On July 25, 2024, a kick-off symposium was held for the project “Building a Regenerative Agri-Fishery System for Sustainable Food Production and Global Well-Being Based on Field Science,” which was selected for the Program for Forming Japan's Peak Research Universities (J-PEAKS)*. It attracted approximately 570 people, including about 350 online participants, from Hokkaido University, other universities, businesses, and various other organizations.

The event began with an opening address from President Kiyohiro Houkin, followed by remarks from distinguished guests who expressed their hopes for the University in this project. Executive Vice President Tsuyoshi Setoguchi then outlined the University's initiatives. The symposium featured research presentations by four faculty members from the University. During the panel discussion, stakeholders from industry, academia, and government exchanged opinions on the theme “toward



Opening address by President Houkin

realizing the ideal future of food production systems,” and the event concluded on a high note.

Through this project, the University aims to lead global efforts to solve problems and achieve societal transformation, with the ultimate goal of creating a society of sustainability and well-being.

*This program aims to promote the formation of a group of research universities that will lead the development of Japan's overall research capabilities. This is achieved by supporting the development of an environment in which core regional universities and universities with strengths in specific research fields can bolster their research capabilities under strategic management that focuses on their strengths and on distinctive research prowess by accelerating the international development of research activities and by advancing the societal implementation of research findings while collaboration with other universities is pursued.



Panel discussion

Hokkaido University signs a comprehensive collaboration agreement with NHK Sapporo Broadcasting Station

03

In anticipation of Hokkaido University's 150th anniversary in 2026 and NHK's 100th anniversary of radio broadcasting in 2025, Hokkaido University and NHK Sapporo Broadcasting Station signed a comprehensive collaboration agreement on April 9, 2024, to address societal challenges in Hokkaido and revitalize the region.

The signing ceremony featured NHK Sapporo Broadcasting Station Director-General Keizo Izuta and Hokkaido University President Kiyohiro Houkin. Director-General Izuta expressed his enthusiasm, saying,



Signing ceremony



President Houkin (right) and Director-General Izuta (left) shake hands

“We share Hokkaido University's frontier spirit and look forward to working on exciting educational projects that will inspire the people of Hokkaido.” President Houkin shared his ambitions, “Under the two pillars of ‘excellence’ and ‘extension’ outlined in HU Vision 2030, we aim to work with NHK to realize a society of sustainability and well-being.”

Moving forward, both parties will leverage their human, material, network, and other resources to collaborate in a wide array of fields in order to achieve their shared goals.

A campus colored by the four seasons

Photographer: Hiromi Terashima



a

As traces of summer linger in the air and the warmth of the sun still remains, the campus gradually begins to take on the colors of autumn. With the leaves on the trees subtly changing color, students move forward into the next season of learning.

As the vibrancy of summer gently fades, fallen leaves gradually adorn the paths beneath our feet, and hints of winter slowly make themselves felt. The arrival of winter brings tranquility, with crisp, clear air enveloping the campus. Beyond this, the new breath of spring awaits, and when cherry blossoms bloom and new life emerges, the campus is once again filled with vigor.

The seasonal landscapes enrich the learning experience at Hokkaido University, helping students deepen their knowledge and broaden their experiences.

Note: For videos showcasing the natural splendor of the campus in different seasons, please visit the University website.



Videos of
campus views
QR code



b



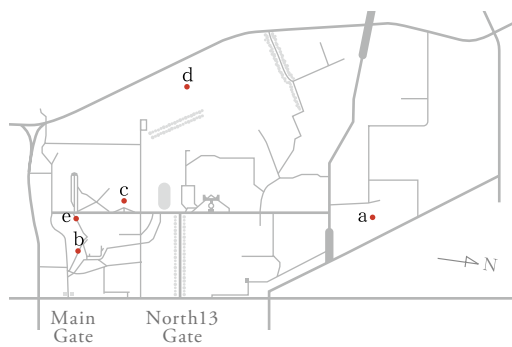
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e



- a. Sapporo Agricultural College's Farm No.2
- b. Central Lawn
- c. The Hokkaido University Museum
- d. Experimental Farm No.1 and Poplar Avenue
- e. Central Lawn and Furukawa Hall

Hokkaido University's 150th Anniversary Ambition to enlighten the world

Through this Litterae Populi Magazine, we will introduce the Hokkaido University 150th Anniversary Project. This second installment offers a Virtual Campus Project.

150th Anniversary Commemorative projects



An aerial drone image of the Sapporo Campus

The Virtual Campus Project

In July 2024, amidst the pleasant early summer weather, a drone buzzed over the Sapporo campus. Its mission was to digitally capture images of the campus.

The Virtual Campus Project is one of the projects commemorating the 150th anniversary of Hokkaido University. It will “virtualize” the University’s landmark facilities, including buildings that can be used for education and research. The aim is to contribute to co-creation with society and to the sustainable promotion of innovation while conveying the appeal and potential of Hokkaido University domestically and internationally.

The project encompasses four major initiatives.

Initiative 1: Creating a 3D campus map

The entire campus will be digitally photographed using drones to create a 3D model.

This model will be featured on the University’s website, serving as a guide to the campus. It will also provide explanations of key facilities and to the websites of each graduate school and faculty, enhancing web accessibility by guiding users from visual information to a variety of content.

Due to its rich biodiversity, the Sapporo Campus was designated as a Nationally Certified Sustainably Managed Natural Site by the Minister of the Environment in 2024. By creating a 3D model of the entire campus, even those who cannot visit Sapporo in person will be able to enjoy the unique environment of the Sapporo Campus.



A 3D model of the Sapporo Agricultural College Model Dairy Farm

Initiative 2: The metaverse

This initiative involves creating a virtual online space where educational and research facilities are represented.

Currently, the buildings and lecture rooms of the School of Engineering are being integrated into a metaverse on an experimental basis. In addition to lectures, seminars, workshops, and poster presentations, events such as open campus tours for high school students can be held. Participants can join as avatars, attending lectures, viewing posters, and even interacting with faculty members.

With its ability to accommodate large numbers of participants and create an unprecedented educational environment, the metaverse is expected to serve as a new tool for co-creation with society.



A lecture attended by avatars

Request for Donations

Hokkaido University's 150th Anniversary Fund

How to Donate

Click “Donate” on the Hokkaido University Frontier Foundation website, select a payment method (credit card, postal/bank transfer, or convenience store payment), and follow the procedure.

With credit card payment, you have the option to make recurring donations (monthly, once a year, or twice a year). Registering as a member at the time of application for donation allows you to change your registration details online at any time.

Initiative 3: Digital twin spaces

This initiative involves replicating real-world environments in digital virtual spaces as if they were twins. A well-known example of this is Google Street View.

In this project, spaces such as the Hokkaido University Museum and the School of Fisheries Sciences' training ship Oshoro-maru are being digitized. These digital spaces enable the embedding of various types of content and the directing of users to external sites.

For the Hokkaido University Museum, 3D data of displayed specimens and databases of materials will be embedded, allowing researchers to examine and study the specimens remotely. This will encourage joint research and support pre-visit learning for school field trips. Furthermore, annual special exhibitions can serve as new educational and research resources by being archived as digital twin spaces.



A digital twin space of the "The World of Paleontological Specimens" Exhibition Room at the Hokkaido University Museum



A 3D model of a specimen on display



An aerial photo of the former main building of the School of Engineering aka The White Mansion
Photo by Hokkaido University Archives



The former main building of the School of Engineering aka The White Mansion viewed from the front garden
Photo by Hokkaido University Archives



Nishi 5-chome Street (School of Medicine, Kita 12-jo)
April 1967
Photo from the collection of Koichi Terazawa, FM-54

Initiative 4: Augmented reality (AR) spaces

An AR space is one where information is overlaid onto the real space. For example, pointing a smartphone or tablet at a former castle site can display how the castle once looked.

This initiative aims to create an AR space that brings the campus of the past to life, working in conjunction with the 3D campus map from Initiative 1.

One of the featured buildings is the former main building of the School of Engineering, which no longer exists. Its exterior was partially covered with white tiles, earning it the nickname "the White Mansion." It was also referred to as "Kakuyoku-kan" (Crane Wing Mansion) for its resemblance to a crane spreading its wings when viewed from above. After its completion, along with Hokkaido University Hospital, it significantly transformed the landscape of the campus north of Kita 13-jo Street.

Did you know that streetcars used to run along Nishi 5-chome Tarukawa-dori Street all the way to Kita 24-jo? Commonly known as "Streetcar Street," Tarukawa-dori had an overpass spanning the Japanese National Railways (now JR) tracks, which you would have encountered after passing the Main Gate of the University and turning right. Using AR technology, these nostalgic scenes, which evoke special memories for alumni and local residents, will be recreated.

This volume of Litterae Populi introduces the Virtual Campus Project, one of the projects commemorating the University's 150th anniversary. During the anniversary period, the framework for this project, which will be sustainably utilized as a tool for co-creation with society over the next 150 years, will be established.

We are continuing to seek support to make the Virtual Campus system more user-friendly. We look forward to your continued support.

URL ► <https://www.hokudai.ac.jp/fund/en/>



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