Spring 2019

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."

Contents

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Photo of the Hokkaido University Museum

Feature: Evolution

Hokkaido University has been forging a history for the more than 140 years since it was initially founded as Sapporo Agricultural College. Remaining true to its heritage, the university has continued to move forward and pursue learning in order to gain new wisdom for the benefit of society.

This feature highlights three initiatives that are steadily evolving as Japan enters a new era following the new emperor's accession to the throne.

The Evolving Nitobe Education System

An exchange session at the Nitobe School Mentor Forum.

Feature: Evolution

Nitobe Education System

Hokkaido University launched Nitobe College in 2013 and Nitobe School in 2015. These educational programs, collectively called the Nitobe Education System, were named after Dr. Inazo Nitobe, known as the first cosmopolitan in Japan and the self-proclaimed “bridge across the Pacific.” Inheriting his spirit, the Nitobe Education System is continuing to evolve in order to foster a new generation of global leaders like Nitobe who will lead the way in this new era.

Hokkaido University opened Nitobe College, a special undergraduate program, in April 2013. This interdisciplinary program open to students at the university's 12 undergraduate schools has offered courses and events that are uniquely designed to develop global perspectives and leadership skills.

Two years later, in April 2015, Nitobe School, a special graduate program, was launched. Open to students of all the university's 21 graduate schools, the program has encouraged students to develop creative common knowledge through intensive team-based learning with English as the common language.

The college and the school are collectively called the Nitobe Education System, and they have the shared goal of developing globally minded world citizens while at the same time evolving independently of each other.

The university decided to combine the college and the school in April 2019 to provide a more integrated undergraduate and graduate curricula while leveraging the best features of both programs. The merge is expected to further enhance the efficiency and effectiveness of education by promoting deeper interactions between the undergraduate and graduate levels, for example, by allowing undergraduate students to take graduate courses according to their progress in study and examining new courses that will bring undergraduate and graduate students together to facilitate their interactions.

A New Initiative: The Two-Step Program

Nitobe College started to review its program in the 2017 academic year and reorganized it into a two-step program consisting of the Foundation Program for first-year students and the Honors Program for students from their second year until graduation. This structure will be maintained in the new program in the 2019 academic year.

In the one-year Foundation Program, students work to learn the importance of leadership skills and enhance their understanding of the international community, but they first must pass an essay examination (approx. 600 words) in April for provisional enrollment.

Provisionally enrolled students take Nitobe College Foundation courses and discover their reasons to study abroad based on their own interests and career goals. These courses are designed to motivate students to think for themselves about studying abroad by providing information on the university's overseas study programs and offering the opportunity for students to listen to faculty members and students who have experienced studying in a different country.

Through these courses, which employ active learning techniques, students also learn the importance of leadership and teamwork skills, as they are divided into teams and engage in group discussions about what ideal leaders are like and what qualities they should have. "Receiving awareness-raising education immediately after enrollment makes a huge difference in the students' campus lives," says Professor Junji Yamaguchi, Vice-Principal of Nitobe College and Nitobe School.

As well as taking these compulsory courses, students must also acquire a certain number of Nitobe College points, which are given when they participate in events sponsored by the College, and they must achieve a certain level of English proficiency (TOEFL-iBT score of 61, TOEFL-ITP score of 500). Students who satisfy these requirements are officially enrolled in October.

After official enrollment, students must take Nitobe Seminar courses, in which Fellows selected from Hokkaido University alumni provide practical education. During the seminar course, each Fellow chooses a theme, such as urban issues, environmental problems, or challenges facing tourism. The course members are divided into teams of approximately five students, and each team then does research on the theme to propose a solution. Students work on their team's concepts, perform onsite inspections, and discuss possible solutions before making their presentations in front of all Nitobe College students in the last class. Professor Yamaguchi explains, "Even when students see the same things onsite, different students identify different problems. By discussing the problems while clarifying their differences, students find common ground, and solutions to the problems. Fellows participate in that process as facilitators."

Students engage in a practical seminar with a Fellow during a Nitobe Seminar.

Striving to become leaders in a global society

The Honors Program, which starts in the second year of enrollment, is intended for students who have completed the Foundation Program and aspire to foster true global leadership skills through active learning.

The Honors Program has only one compulsory course: Overseas Study. Students study abroad in line with the significance and goals which they have carefully considered through the Foundation Program. The availability of different types of programs tailored to the goals of students make the Honors Program very appealing.

The International Internship Program, which offers the opportunity to work at a business abroad, is steadily increasing in popularity among students. By enabling students to practically develop comprehensive skill sets through internships at overseas businesses, the program has generated a highly favorable response among students who participated.

There are many other unique innovative programs. For example, the Taiwa (Dialog) Program offers the opportunity for students to have one-on-one dialogs with Fellows of their choosing. It's a valuable program in which students can share their ideas with Fellows, who are Hokkaido University alumni with extremely varied experiences. Students can discuss their current situations, hopes, and worries and then, with the advice from the Fellows, finetune their future goals .

Nitobe Seminars include fieldwork. The photo shows students on a tour of the Sapporo Central Wholesale Market.

There are also courses offered outside the university. Career Development Seminars are two-day residential training courses for career development in which students engage in group work together with Fellows and faculty members. Advanced Fellow Seminars are residential training courses where students engage in group discussions on themes they choose, such as Sustainable Development Goals (SDGs), and make presentations about their discussions. Professor Kazuyori Yuhazu, Assistant-Principal of Nitobe College, eagerly says that, going forward, he hopes to make the seminar courses open to Nitobe School students so that undergraduate students can receive advice from them.

A group of students make a presentation at the Nitobe Seminar Plenary Presentation Session. Students who make great presentations are commended and are invited to present at the Nitobe College Enrollment Ceremony in the following academic year.

A microcosm of the international community built within the campus

A main feature of Nitobe School for graduate students is that all classes are taught in English. Here, international students account for nearly one-third of all the students, and Japanese and international students learn together. Professor Yamaguchi, the Nitobe School Vice-Principal, says, “In contrast to international students, who are active in group work, Japanese students are reserved and quiet. This difference causes the latter to feel frustrated at first, but within six months or so, Japanese students become just as engaged in discussions as their international counterparts are. The process whereby students work hard together is akin to the process whereby people venture out into the international community. One of the remarkable features of Nitobe School is that it offers the opportunity for Japanese students to work closely with students from other countries on campus in Japan.”

Nitobe School also has a well-developed educational program whose forward-thinking initiatives include taking cutting-edge approaches to classes, such as by introducing project management techniques, providing academic support based on portfolios developed by the school, and introducing a mentor system to encourage students to interact with working members of society who have completed Nitobe School or a graduate school of the university. The school’s ever-evolving, uncompromising education prepares students to recognize the roles they will play in society, to demonstrate leadership, and to play pivotal roles in the international community.

Under the name of Nitobe

Nitobe College and Nitobe School were named after Inazo Nitobe, a member of the second graduating class of Sapporo Agricultural College, the predecessor of Hokkaido University, who is known for his engagement in a wide variety of international activities. It is worth noting that the plan to launch the new undergraduate program had been under development for more than a year, but that the vision for the program became clear only after it was named after Dr. Nitobe. Professor Yamaguchi looks back on those days with a smile and says, “I was impressed by the power of the name because it gave us a direction to go in.”

Inazo Nitobe entered Sapporo Agricultural College some 140 years ago. “The Nitobe Education System passes on his spirit to students in the 21st century,” Professor Yuhazu says. “Under this system, I hope we produce highly motivated young professionals like our alumni who kindly advise current students as Fellows after making inroads onto the world stage.”

Hokkaido University students will continue to follow Inazo Nitobe onto the world stage as a new generation of global leaders.

Reports and other publications on Nitobe College and Nitobe School. Books featuring Nitobe College initiatives are commercially available.

A Message from a Nitobe School Alumna

Yuriko Saheki

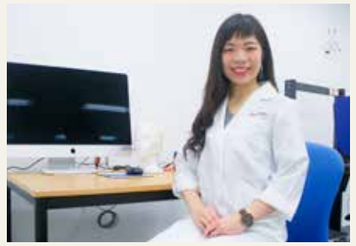
(Psychology and Behavioral Research Group, Advanced Research Center, Shiseido Co., Ltd.)
Enrolled in Nitobe School in 2015

What sets Nitobe School apart from other graduate programs is that students spend most of their time in discussions and presentations in English and little time in lectures. Active learning with an output-based approach was a valuable experience. English has become the official language of Shiseido, the company I work for, so English communication skills are essential at work. I feel I’m building on my experience at Nitobe School.

At Nitobe School, I met students of different nationalities, backgrounds, interests, values, and future visions. I believe it served me well to have experienced real diversity at school. Even today, after graduation, my friends from Nitobe School are sources of courage and aspiration.

What I liked about the school was its high faculty-to-student ratio. I was fortunate that the faculty members were all eager to teach, joining our discussions through to the end even outside classroom hours. We also had many valuable opportunities to interact with mentors working at the front lines of their industries.

The school gave me moments of introspection and ample opportunity to talk about my dreams. It also showed me that I myself must seize the opportunity to make those dreams come true. I hope current students will pluck up their courage and take their first steps forward.



Messages from Current Nitobe College Students

Hiroki Asa (a second-year student in the School of Agriculture)

Enrolled in Nitobe College in 2017

Nitobe College attracts students who are interested in international exchanges, and it’s truly stimulating to talk with like-minded students.

The college offers appealing courses. The Taiwa (Dialog) Program gave me an invaluable opportunity to talk directly with Hokkaido University alumni. The network of personal contacts I have built at the college has become priceless to me, along with my contacts at the School of Agriculture and at the club I belong to.

In the International Internship Program, I worked at NTT Communications (Thailand) Co., Ltd. in Bangkok, where I gained valuable experience: I was assigned to frontline jobs, including assisting with the organization of the company’s 60th anniversary celebration and customer service.

Up until I joined the internship program, I’d believed that English speaking skills were indispensable for globalization. Thailand, where I served as an intern, is like Japan in that English is the predominant foreign language. It goes without saying that English proficiency is important, but even more important is the ability to get your point across clearly. I realized through my internship that to do so, we must try to communicate no matter what language we use: English, Japanese, or the local language.

There are lots of things we can learn only by experience, so I hope many students will participate in this program.

Kanami Suzuki (a junior in the School of Law)

Enrolled in Nitobe College in 2016

I entered Nitobe College because I wanted to take up the challenge of studying abroad, which I’d vaguely longed for since high school. I went to the University of British Columbia in Canada for a month during spring vacation when I was a first-year student.

College students in Canada have diverse cultural backgrounds. By getting a firsthand look at them studying together while respecting one another’s differences, I was truly able to understand the importance of diversity and cross-cultural exchanges. It was an invaluable experience, because I was able to understand their importance only superficially until I actually studied abroad.

In Canada, I keenly realized my lack of English proficiency, which gave me the push to improve my English skills and study abroad again. So, when I became a third-year student, I entered the International Internship Program and did an internship at Thai Otsuka Pharmaceutical Co., Ltd. in Bangkok. During my internship, I had the opportunity to talk with the president of the company. I was impressed when he said he wanted to become a bridge between Thailand and Japan. He inspired me so much that I hope to someday serve as a bridge between Japan and elsewhere in the world.

If you have any interest in studying abroad, I urge you to give it a try, even if just on a whim. Studying abroad is tough, but hugely rewarding, and you can learn a lot.

Passing on the Spirit of Sapporo Agricultural College to the Present and Future

Left: The *Oshoro-Maru V*, anchored at the Port of Hakodate. On the day when interviews for this article were conducted, preparations for departure the following day were under way in bad weather.

Abobe: The nameboard for the first-generation training ship *Oshoro-Maru* is on display, along with a photo album, at the Fisheries Science Center (a branch of the Hokkaido University Museum) on the Hakodate Campus.

Right: The anchor of the *Oshoro-Maru IV*. It was used until 2014 and is now on display.

The Hakodate Campus

Hokkaido University's Hakodate Campus is far from Sapporo Campus, but the School, Graduate School and Faculty of Fisheries Sciences at Hakodate are said to have inherited the ethos of Sapporo Agricultural College. These institutions aim to develop with local communities and to contribute to the wellbeing of humanity by pursuing new possibilities for the oceans, most of which we still know very little about.

Feature: Evolution

Traditions of fisheries studies handed down from the inaugural class of Sapporo Agricultural College

Sapporo Agricultural College (SAC), today's Hokkaido University, established the School of Fishery in 1907, about 30 years after its founding, but the history of fisheries studies goes back to when the college was established. Kazutaka Ito, a member of the inaugural class of the SAC who graduated with distinction, is known as the founder of the Hokkaido Salmon Hatchery in Chitose. Kingo Miyabe, a member of the second graduating class of the SAC and a botanist, engaged in a systemic study of kelp species. Kanzo Uchimura, another member of the second graduating class who became a great thinker, majored in fisheries science, and his work was on the embryologic development of abalone. Although the institution was an agricultural college, students engaged in fisheries studies presumably due to the close relationship between the Japanese diet and the sea. Against the backdrop of a Japan surrounded by seas and blessed with abundant aquatic resources, fisheries science has roots in Japan which are underpinned by Hokkaido University.

A significant characteristic of the School, Graduate School and Faculty of Fisheries Sciences is their focus on both fisheries science and oceanography in education and research. It would be fair to say that few other colleges around the world, let alone in Japan, enable students to study both fisheries science—looking into the ecology of marine creatures and exploring the possibilities of using them as food resources—and oceanography—looking into oceanic conditions, including temperatures, minerals, and currents. By learning both fields, students find out about the ocean before learning about creatures living there. As a matter of fact, students are exposed to a wide array of fields—all fields related to oceans, from land areas to the sea floor. Subjects covered include marine products, which are indispensable sources of food, the fishing industry, which concerns the securing of marine products and thus relates to livelihoods and society, and even global oceanic conditions. A broad perspective is needed to address the challenges we face, such as changing marine environments and declining aquatic resources. Based on the idea of sustainable fisheries science, the School, Graduate School and Faculty of Fisheries Sciences look into various impacts of global environmental changes and the protection and utilization of biological resources in view of their relations with society.

The *Oshoro-Maru*: An indispensable part of the history of the School of Fisheries Science

The ocean covers 70 percent of the Earth's surface, but little is known about it. Against this backdrop, the School, Graduate School and Faculty of Fisheries Sciences put a premium on fieldwork in the ocean, and not just on lab experiments. Upon entering the School of Fisheries Sciences, students venture out on the sea in a training ship to learn what it is like to be at sea, something they can never learn in the classroom, including how to collect aquatic animals and operate certain equipment. Classes using a training ship are also offered in Freshman Seminar general education courses and are very popular. Training ships have been such an integral part of the history of the School of Fisheries Sciences as an important venue for education and research that they have become synonymous with the school.

The first-generation training ship was built in 1909, only two years after the School of Fisheries was established at Sapporo Agricultural College. The ship was named the *Oshoro-Maru*, and the current one is the *Oshoro-Maru V*. Today, the School of Fisheries Sciences has two training ships: the *Oshoro-Maru* (1,598 tons) and the *Ushio-Maru* (179 tons). They are used not only by students for educational purposes, but also by overseas researchers as research vessels.

The *Oshoro-Maru* sailed to the Arctic last year and the year before as part of a national Arctic research project known as Arctic Challenge for Sustainability (ArCS), launched in September 2015 and funded by the Ministry of Education, Culture, Sports, Science and Technology. In this project, the National Institute of Polar Research (NIPR), the Japan Agency for Marine-Earth Science and Technology (JAMSTEC), and Hokkaido University have played the key roles. The Arctic is the perfect location to monitor climate change. When using the *Oshoro-Maru* as a research vessel, the School of Fisheries Sciences publicly announces the research objectives and other details, and recruits researchers from around the world to board the ship. An example of a voyage goes like this: The ship leaves Hakodate, sails across the Pacific to pick up researchers at Dutch Harbor in the Aleutian Islands, and proceeds to its destination to conduct research. Once the research is completed, the ship goes back to Dutch Harbor to drop off the researchers and then returns to Japan. This international research project allows graduate students to participate, giving them invaluable experience.

Human resource development that broadens the possibilities of fisheries science

The enrollment limit of the School of Fisheries Sciences has been 215 students for many years. The school attracts unique students with different motivations, including those who love fish or sea lions and those who wish to go to sea, from across Japan every year. After enrolling, students spend their first year in the First-Year Education Division before moving on to pursue their studies at the School of Fisheries Sciences from their second year, a school in which they are assigned to the Department of Marine Biology, the Department of Applied Marine Science, the Department of Aquaculture Life Science, or the Department of Marine Bioresources Chemistry. They spend their first and second years at Sapporo Campus, and their third year onward at the Hakodate Campus. Some find it tough to be away from Sapporo Campus but develop a special bond together out on the sea during practical training and other fieldwork.

Professor Nobuo Kimura, the Dean of the School, Graduate School and Faculty of Fisheries, says "What we can teach at our school is the knowledge that's currently available, but it may not offer the best solutions. Actively looking for better solutions that may or may not exist is sure to broaden the possibilities of fisheries science. I hope our students are improving their ability to think for themselves."

While many graduates of the School of Fisheries Sciences go on to graduate school, many others land jobs at various private and public organizations, including food companies, cosmetics makers, and government offices. Many students obtain the qualification of curator, some of whom take positions at museums, aquariums, zoos and the like. The wide range of places where graduates are employed reflects the diversity of the fields covered by the School of Fisheries Sciences.

Today, the School, Graduate School and Faculty of Fisheries Sciences are promoting exchanges with many overseas universities, chiefly in Asia, based on international exchange agreements. For instance, these institutions invite faculty members from the National University of Singapore, one of the top universities in Asia, to jointly teach courses in English at the Hokkaido Summer Institute, offering the opportunity for students at both universities to learn together. Such collaborative programs with overseas universities have steadily been growing in number.

The School and Graduate School of Fisheries Sciences host many international students. They also accept trainees from other parts of Asia and Africa via the Japan International Cooperation Agency (JICA). When these students and trainees return home, they share the knowledge of fisheries science which they gain at these schools, thereby helping to spread that knowledge around the world and to develop human resources. These endeavors will lead to global efforts to protect and harness the oceans.

Some of the Controlled Environment Rooms, which have aquariums of varying sizes for marine life.

Research projects that lead to community revitalization

Many research projects that are under way at the Faculty of Fisheries Sciences have the potential to transform medicine, diet, and industry. Professor Hajime Yasui catapulted *gagome* kelp (*Kjellmaniella crassifolia*), which was once regarded as a nuisance in the harvesting of Japanese kelp, into fame. Today, *gagome* kelp is a specialty of the Hakodate region, a product known throughout Japan not only as a popular souvenir but also as a health food. By elucidating and publicizing the functional components of *gagome* kelp, such as fucoidan and fucoxanthin, Professor Yasui succeeded in commercializing and industrializing it.

Research on sturgeon species conducted by Professor Shinji Adachi and his fellow researchers also has the potential to foster a regional industry. Sturgeon once inhabited Hokkaido, and it is said that Takeshiro Matsuura (1818–1888), an explorer of the late Edo period, saw a sturgeon approach his boat with its nose above the surface during his survey of the Teshio River. Like salmon, sturgeon are born in rivers, grow up in the sea, and reproduce in the rivers of their birth. Research on the artificial hatching and culture of sturgeon is under way to reintroduce the Sakhalin sturgeon (*Acipenser mikadoi*), now extinct in Japan, into an ecosystem and to establish a sturgeon industry. Sturgeon aquaculture has already begun in Hokkaido, including in the towns of Bifuka and Shikaoi. Such aquaculture is not easy, as sturgeon grow slowly and their breeding involves the difficulty of determining the precise timing of hormone injections to induce ovulation. Professor Adachi has long visited and advised local aquariums and research institutes on sturgeon rearing and breeding. Thanks to his efforts, these facilities have become able to increase the number of sturgeon. As well as sturgeon roe being used as caviar, sturgeon flesh is also edible. The day may soon come when dishes featuring locally cultured sturgeon are served in restaurants in Sapporo.

Under Associate Professor Shigeho Ijiri, students conduct experiments on eels.

Seaweed and *gagome* kelp products launched in the market based on research outcomes, the fruits of many years of research by Prof. Hajime Yasui and other researchers.

Students hold the sturgeon they are raising.

Other noteworthy research at the Faculty of Fisheries Sciences which aims to address issues directly associated with fisheries in Hokkaido includes studies to prevent damage to fisheries in the Erimo area, more specifically the incidental capture of harbor seals in fishnets and the damage to fish catches caused by harbor seals, and studies to create stable kelp beds to stem the decreasing kelp production in Hokkaido. Researchers continue to take on challenges in order to achieve the practical application of their research findings.

Endeavors to contribute to the wellbeing of humanity

Fisheries science is an interdisciplinary field of study involving various topics, such as communities, industry, diet, and global environment/resource issues, and it requires a network of people from diverse backgrounds. Efforts by the Faculty of Fisheries Sciences to broaden its networks with other educational and research organizations at the university and with communities, industries, overseas researchers and other parties will lead to the development of fisheries science. The faculty is also active in concluding cooperation agreements with local municipalities.

Professor Kimura says, "We always keep in mind how we can help develop local industries and local human resources. The School, Graduate School and Faculty of Fisheries endeavor to develop with local communities and to contribute to the wellbeing of humanity through research and education with an eye toward the world."

The Hakodate Campus promises to open new horizons for fisheries science.

Slavic-Eurasian Research Center

Aiming to Better Connect the World in Order to Pioneer a New Future

Feature: Evolution

The Slavic-Eurasian Research Center (SRC) has enjoyed a solid position for the more than six decades since it was initially established as the Slavic Research Section in 1953. It continues to play an essential role as the only research center dedicated to Slavic Eurasian studies in Japan.

The Slavic-Eurasian Research Center (SRC) was initially founded as the Slavic Research Section in 1953 and was reorganized and renamed a couple of times before its establishment as the Slavic Research Center in 1978 and the Slavic-Eurasian Research Center in 2014. Though small in scale, the SRC engages in a wide range of activities as Japan's only research center for comprehensive studies on Slavic Eurasian areas. The scope of research conducted at the center has widened from the former Soviet Union and former Communist countries in Eastern Europe to cover the Eurasian continent, addressing various themes including history, politics, economy, culture, religion, and language.

Today, research projects at the SRC are based on four pillars: comparative studies between Slavic Eurasian areas and other areas, Northeast Asian studies, Arctic studies, and border studies and tourism. "Since numerous countries share borders in the areas covered, issues unique to borders have become the new focus of our attention," says Professor Manabu Sengoku, the Director of the SRC.

The only research center dedicated to Slavic Eurasian studies in Japan

The SRC Library and the Hokkaido University Library keep countless resources of international importance to Slavic Eurasian studies, including microforms, books, and other publications. These resources are systematically collected by the SRC's Information Division and they include themed collections. In fact, the university has one of the world's most extensive collections related to Slavic Eurasian studies. These resources are also available to researchers elsewhere in Japan and abroad because the SRC also serves as a joint usage/research center for collaborations, thereby making Hokkaido University a magnet for researchers.

Playing a central role in research activities at the SRC are fewer than 20 full-time faculty members who comprise the five sections of the Research Division. It is difficult for those full-time faculty members alone to cover all the research themes, so visiting researchers, overseas guest instructors, and more than 100 co-researchers from the university and elsewhere in Japan also participate.

Above: Some of the SRC's resources from between the late Edo period and the Taisho era. These valuable resources show the conditions of those days.
Below: The SRC Library has a large number of books, maps, and microforms.

The SRC hosts about six overseas guest instructors every year, who are chosen from foreign universities. The ratio of applicants from the West to applicants from Russian-speaking countries is roughly fifty-fifty, and many applicants seem motivated to use the wealth of resources at the center. "Applicants exceed 100 in some years," Professor Sengoku says, sounding pleased with the favorable response from applicants.

Many graduate students also engage in research at the SRC. The center offers cooperative programs at the Graduate School of Humanities and Human Sciences, accepting students from within and outside of the university. These programs cover a wide range of Slavic Eurasian themes. The SRC also has funds to develop young talent, dispatching graduate students abroad for one to three weeks and encouraging them to interact with researchers at host institutions.

Disseminating research outcomes through various channels

The SRC disseminates research results through various media and occasions, including at symposiums, at seminars, in journals, and recently, through social media.

The center hosts international symposiums twice a year, in summer and winter, at which prominent scholars from abroad also participate. The symposiums provide a venue for exchanges among researchers in Slavic Eurasian studies around the world and an opportunity for the SRC to promote itself.

The SRC also holds other events, including one-off seminars, outreach programs, and quarterly public lecture meetings.

The center publishes peer-reviewed academic journals (two in Japanese and two in English). Each journal has a print circulation of only about 100 copies, but they are also published online for readers around the world. In recent years, the center has worked to build a database on Slavic studies. The database includes photos taken in Sakhalin, Siberia, and the Russian Far East between the late Edo period and the Taisho era (from the mid-19th to early 20th centuries) and data on elections and political parties in Eastern European countries after the regime transformation. These resources are collected and managed by staff of the Information Division.

Border studies for regional revitalization

Border tourism is attracting attention these days. New tourism resources are being developed with a focus on people's cross-border movement, cultural exchanges, and economic activities, and the SRC also views border tourism as one of its pillars. The lives of people in border areas often differ from those in capital areas, and you can experience lifestyles and cultures different from your own when you cross a border. The term "border tourism" was added to *Gendai Yogo no Kiso Chishiki* (The Encyclopedia of Contemporary Words) recently and is reportedly expected to be a key element of regional revitalization. Japan has already seen local governments and travel agencies organizing tours to maritime border areas and bordering countries/regions, and faculty members of the SRC are also involved in organizing such tours.

The SRC Library's holdings include newspapers published in Russia, Central and Eastern Europe, and Central Asia, which offers a spectacular sight.

Serving as a hub for Slavic and Eurasian studies

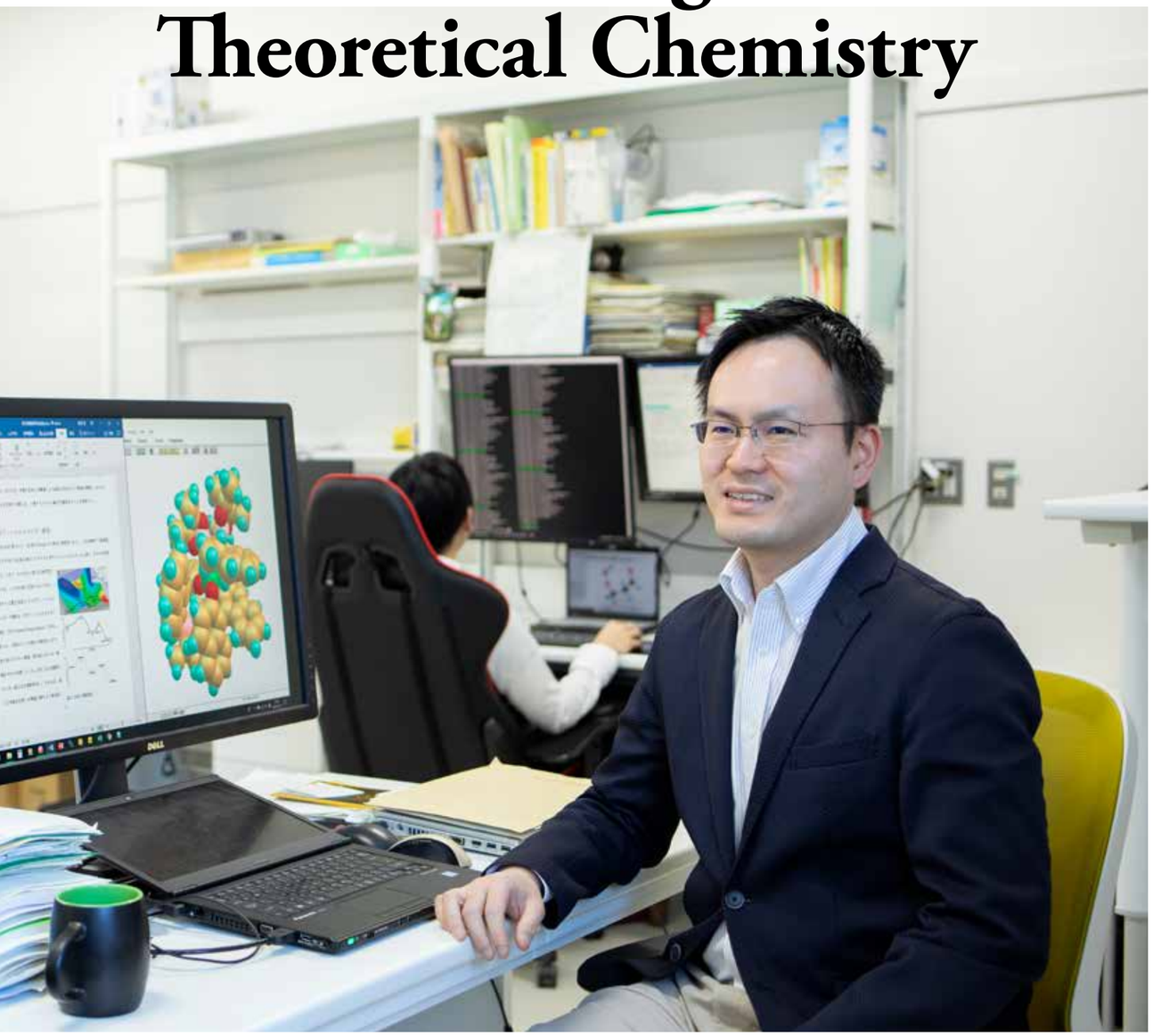
Since researchers in Slavic and Eurasian studies work at different organizations, it is crucial that they collaborate beyond their organizational boundaries. Professor Sengoku shares one of the SRC's visions: "As the nation's only research center dedicated to Slavic and Eurasian studies, we're committed to playing the role of a hub for scholars." And this vision is a global one, not limited to Japan, as shown by the SRC's contributions to the launch of the East Asian Conference on Slavic Eurasian Studies in 2009 with researchers in Japan, China and South Korea—a conference that has come to attract participants from many countries every year and that helped bring the 2015 World Congress of the International Council for Central and East European Studies (ICCEES) to Japan.

SRC networks continue to expand around the world every day.

An international symposium held at the SRC in December 2018. The event saw the participation of many overseas researchers.

A well-received ongoing exhibition series on border tourism at the SRC section of the Hokkaido University Museum.

Refining: Theoretical Chemistry



The Artificial Force Induced Reaction Method, a driver of future prosperity

Satoshi Maeda

Professor, faculty of Science

A doctor of science, Satoshi Maeda specializes in theoretical chemistry and computational chemistry. After receiving his Ph.D. from Tohoku University, he became a fellow (PD) of the Japan Society for the Promotion of Science (JSPS) and then assumed an assistant professorship under the Hakubi Project at Kyoto University. He was appointed an assistant professor in the Faculty of Science, Hokkaido University, in 2012, and promoted to an associate professor in 2014 and to professor in 2017. He has been the director of the Institute for Chemical Reaction Design and Discovery (ICReDD) since 2017. He is expected to play an even more significant role as a trailblazer in theoretical chemistry and as the founder of the new academic field "Chemical Reaction Design and Discovery (CReDD)."

"Automated reaction path search methods" developed through encounters with various people

The discovery of innovative chemical reactions and the products of such reactions can produce profound socioeconomic ripple effects. At present, however, new chemical reactions and products can only be discovered through trial and error involving innumerable experiments, which are time-consuming and laborious. Against this backdrop, Professor Satoshi Maeda of the Faculty of Science has been engaged in the development of automated methods to predict chemical reactions, products, and reaction paths based on quantum chemical calculations rather than on experiments.

Professor Maeda says, "A special TV program featuring Einstein that I happened to watch when I was an elementary school student sparked my interest in the world of atoms and molecules and inspired me to become a scholar as I wondered if I could produce everything by putting together individual atoms like building blocks." After graduating from Nagano Prefectural Yashiro High School, he entered Tohoku University in 1998, where he joined the Laboratory of Theoretical Chemistry in the Department of Chemistry of the Faculty of Science. "This lab focused mainly on experiments, but my supervisor, Professor Koichi Ohno, kindly read and discussed passages from foreign books on computational chemistry every morning with me. After about half a year, I took notice of the challenge of searching for reaction paths, for which only limited progress had been made, and later on, I decided to work to address this challenge myself."

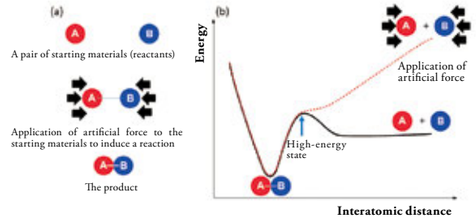
When he was a Master's student, Professor Maeda took a hint from his discussions with his supervisor during those morning reading sessions and proposed the anharmonic downward distortion following (ADDF) method, which was developed as an automated reaction path search method. He made the ADDF method his central research theme as he went on to a doctoral course and engaged in postdoctoral work as a JSPS research fellow.

Professor Maeda joined Kyoto University's Hakubi Project in 2010. "Professor Toru Fushiki, Director of the Hakubi Center for Advanced Research, told me I wouldn't have to publish any papers or apply for any patents during the five years in which I would be working on the project, but that I should find a seed that would grow to bear a large flower in five years." The advice from Professor Fushiki inspired him to give it a try and attempt an innovative approach, because he had come up against the limits of the ADDF method despite having continued to focus on it, he says.

This change of perspective led him to propose a new automated reaction path search method known as the artificial force induced reaction (AFIR) method. In the AFIR method, a computer simulation is used to apply virtual mechanical force (artificial force) to reactants A and B to push them together, for example, to induce a reaction, and the product AB is automatically predicted. The method also enables the quick prediction of various reaction paths based on relatively easy computation. While the ADDF method can be applied only to reactions of small molecules, the AFIR method can also be used for those of large molecules and is expected to be applied to reaction mechanism analysis and functional molecular design.

Groundbreaking research that goes beyond the conventional framework of theoretical analysis

Professor Maeda looks back on when he assumed an assistant professorship in Hokkaido University's Faculty of Science in 2012: "I was still in my second year on the Hakubi Project, but I applied for a tenure-track position to be mentored by Professor Tetsuya Taketsugu of the Faculty of Science, for which applications were publicly invited. I was able to assume the position thanks to a reference from Professor Koichi Ohno." He has since devoted himself to research based on the AFIR method, which includes the Development of Molecular Technology for Designing Chemical Reactions Based on Automated Reaction Path Search Methods, which was selected as a project for the Core Research for Evolutional Science and Technology (CREST) of the Japan Science and Technology Agency (JST). In this research, he worked to make strides toward generalization by expanding the AFIR method to enable its application to various chemical reactions such as organic reactions, photochemical reactions, and crystal-structure transformations. "In the beginning, I developed the AFIR method only for reactions of organic molecules and organic chemicals, but I was able to develop it to allow its diverse application to all kinds of reactions, including catalytic reactions, enzymatic reactions, and other biological ones," Professor Maeda says.



A schematic of the AFIR method
The black line in (b) shows relations between interatomic distances and energies when the starting materials A and B combine to form AB (the product). On this energy function, it is computationally difficult and time-consuming to overcome the high-energy state before AB is formed. With the AFIR method, a computer simulation is used to apply virtual mechanical force (artificial force) to push A and B together. When the force is applied (the red line in (b)), A and B drop in the low-energy direction and the product AB is automatically predicted. The AFIR method has enabled the quick prediction of various reaction paths by relatively easy computation.

In October 2018, the Hokkaido University project to establish the Institute for Chemical Reaction Design and Discovery (ICReDD) headed by Professor Maeda was selected for the World Premier International Research Center Initiative (WPI) of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Professor Maeda describes the direction the institute should pursue: "My personal goal is to lay the foundation for research on chemical reaction design and discovery using the methods I've developed. The overriding aim of the institute is to establish, as a strategy, a series of steps ranging from reaction path prediction by computational science to database development and data extraction based on information science and onward to actual synthesis."

Professor Maeda will continue his research based on the AFIR method towards establishing a new academic discipline by fusing the three disciplines of computational, information, and experimental sciences.

Relaxation

An outing with students from his seminar

Mountain climbing used to be a hobby of Professor Maeda. These days, however, he is snowed under with research, so he goes on outings with students from his lab for a little bit of relaxation.

Alumni Interview

Taking Up the Challenge of Cheesemaking with a Spirit of Exploration

Learning from Failures to Aim Higher

Zensaku Yoshida

Dairy farmer, Cow Artisan

| School of Agriculture Graduate |

Mr. Zensaku Yoshida runs a cheesemaking farm in a mountainous region of Okayama Prefecture. For its lovingly handcrafted cheeses, the farm is flooded with orders from restaurants and other businesses across Japan. Thirty years after he began cheesemaking, he talks about his thoughts on his career and college days.

I heard you were born in Okayama Prefecture. What was your childhood like?
When I was a boy, I liked to disassemble whatever I could find. My father used to say, "Don't give him a screwdriver." The more I was told not to disassemble things, the more eager I was to take them apart; I dismantled various things, including my father's camera and a large wall clock in our living room. The problem was that once I took them apart, I couldn't put them back together.

What were your high school days like?
My high school was oriented toward preparation for college entrance examinations, so I don't recall anything exciting from that time. I joined the track-and-field club, but I was a bookworm who frequented the library to read books about expeditions and adventures. The books include those written by Dr. Naomichi Ishige, who has traveled around the world and is known for having an "iron stomach," and those authored by the late Dr. Eizaburo Nishibori, who was the leader of the Wintering Party of the first Japanese Antarctic Research Expedition. I didn't study at all back then.

What made you decide to enter Hokkaido University?
The authors of most of those books on expeditions and adventures were from the explorers' clubs of Kyoto University or Hokkaido University. I preferred Kyoto University, but my teacher told me I wouldn't pass the entrance exam. Since I didn't want to study an extra year to pass, I chose Hokkaido University. Although I chose it reluctantly, I'd already read books written by Professor Ukichiro Nakaya, including *Fuyu no Hana* (Flowers of Winter) and its sequel, *Zoku Fuyuno Hana*, which I found are well written essays.

Mind if I ask you to share your memories from your days in the Explorers' Club?
Not at all. I crossed the Kushiro Wetland midwinter pulling a sled and spent 20 days walking on drift ice around the Shiretoko Peninsula. I also took one-year leave to join the university's team for an academic expedition to the Aleutian Islands. I was 19 years old back then, the youngest member of the team, and was assigned to cooking and carrying baggage. Later on, I traveled alone in Latin America by bus and thumb. In those days, travel guidebooks weren't that popular, but I had nothing to be afraid of. The Explorers' Club became famous when its members, who were my seniors, and others made the first manned hot-air balloon flight in Japan. They made the burner and basket on their own, and machine-sewed hot-air balloons in the gym using donated fabric.

What made you decide to enroll in the Department of Animal Science in the Faculty of Agriculture?
More than anything, I wanted time to myself. So, I followed the advice of a fourth-year student in the Explorers' Club and joined the Department of Animal Science. I hardly attended class, so I didn't so much as touch a cow until after graduation.

Inside a maturation chamber seven meters underground packed with Parmigiano-Reggiano- and Comté-style cheeses. This chamber takes advantage of the natural environment.

What impression did you have of Hokkaido University in those days?
It was a great institution with an open-minded atmosphere. Faculty members were also broad-minded. One day, when I went to class, the instructor asked me why I was there. I said I came to attend the class, and he asked me to join him because he was going to take to the streets for a demonstration. Those were the good old days. I feel grateful to my teachers because they allowed me to graduate without having to repeat a year.

What made you start making cheese?
After graduation, I worked in Tokyo for five years. But I couldn't help feeling out of place in Tokyo and at the company where I was working. So, I started to feel like I should change jobs. In those days, I made fermented foods such as natto (traditional fermented soybeans) and miso (bean paste) in my small apartment. When I read an article featuring an elderly couple making cheese in Normandy, France, in a *Kurashi no Techo* (Living Handbook) magazine, I thought I'd be able to make cheese if I had a cow. This is how I started making cheese, but I couldn't make it at first. I went to France to learn cheesemaking and won the Yano Award from the Dai-ichi Life Insurance Company, with a prize of 500,000 yen (approx. US$5,000).

What's cheesemaking like?
Cheesemaking is part of manufacturing. In manufacturing, the finished product depends on the quality of raw materials, so to make delicious cheese, I see to it that I take good care of my cows

Mr. Yoshida, his eldest son, and the husband of his eldest daughter producing cheese. They produce only as much as they can make on their own to ensure high-quality.

and produce delicious milk while steadfastly doing everything else I can. All the routine tasks are essential. The weather and humidity, which vary daily, also affect cheesemaking, and techniques used in France don't necessarily work in Japan. We make cheeses that are suited to the local climate, and the cheeses have distinctive flavors.

I heard you often go abroad despite your busy schedule.
I visited Nepal in 2016 to teach cheesemaking a second time. The first time was around 1998, but a major earthquake hit Nepal several years ago and buried the village where I'd taught cheesemaking under mud and glacial ice, killing four of the five students I'd taught. I was asked to teach cheesemaking again. I've visited Bhutan almost every year for the past six years. I went there for the first time six years ago to learn about a Bhutanese cheese known as *philu*, which was described as "tastier than any cheese in Europe" in a book I read in my high school days. The book was *Hikyo Bhutan* (Mystical Bhutan), written in 1959 by Dr. Sasuke Nakao, the first Japanese citizen to visit the country. The families I met on my first trip there were nomadic herders of yaks, a bovid with long hair. These families made their living by making philu cheese from yak milk. I was so fascinated by their lifestyles that I've been there five times to learn about their culture and to study their cheesemaking.

Can you tell us about any life principles you live by?
There are various ways to make our dreams come true, but whenever I've found myself unable to make up my mind or at a crossroads, I've been sure to make a choice that promises difficulty. By doing so, I'm sure to succeed. Nobody likes difficult situations, but the difficult path can be very rewarding.

Finally, could you please share your expectations of Hokkaido University and give a message to the current students?
Sure. I visited Hokkaido University the other day to teach cheesemaking to students in the Department of Animal Science. They were very serious. Excessive seriousness stifles creativity, so I want students to think outside of the box, even if they get scolded for doing so. When we went for drinks after class, I told them that if they find something wrong, they should speak out. Colleges will be finished if students can't think outside the box anymore.

Gifts to Mr. Yoshida given by the Bhutanese people. From left: female headwear, a cowbell, and a rope made from yak hair.

PROFILE

Zensaku Yoshida, born in Okayama Prefecture in 1955, graduated from the Department of Animal Science in Hokkaido University's Faculty of Agriculture in 1979. After a five-year stint at a private company, he started a dairy farm in the Kibi-kogen Highlands of Okayama in 1984 and began making cheese in 1988. He has been producing cheese on the same farm where the milk is produced, a process called "fermier," and has gained a following across Japan.

This issue features contributions from HU Ambassador Viktor I. Korsunov, the Chairperson of the Friends of Hokkaido University Association in Sakhalin State University, and HU Ambassador Gulmira Sultangalieva, the Professor of Al-Farabi Kazakh National University (Almaty). We interviewed them in commemoration of the opening of our brand-new satellite office in Moscow, which manages the Russian Federation and CIS (Commonwealth of Independent States) area.

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Dr. Viktor I. Korsunov

Head of the International Relations Department, Sakhalin State University, Chairperson of the Friends of Hokkaido University Association in Sakhalin State University, appointed as a Hokkaido University Ambassador in November 2018

While I was not surprised when I was asked to become an HU Ambassador, I felt honored to become an HU Ambassador for two reasons: Hokkaido University is one of best higher education institutions in Japan, and the first international agreement of Sakhalin State University (SSU) on interuniversity cooperation was signed with Hokkaido University in 1989.

I have been involved in different joint projects with Hokkaido University for more than 25 years (the first agreement with Masanao Takeda was on 1989!), including the RJE3 Program[1]. In addition, we also promote student and faculty exchange programs with HU such as HUSTEP[2] and the JLCSP[3], which have been on the agenda for more than 20 years.

Regarding the new Moscow Office, I am sure it's a very good idea to establish a Hokkaido University Office there. Moscow is the capital of Russia and thus the center of university life in my country. Sakhalin State University is part of the all-Russian university system. I think that the SSU as well as many other Russian universities will be able to join some new Japanese-Russian research projects and academic programs.

When I am in Sapporo, I spend any free time just walking in the street. I do like this city; its downtown, its architecture and parks, its underground. I think that Sapporo is the most beautiful city in Japan in all seasons. Although it is not my native town, I feel like home there. My native town Yuzhno-Sakhalinsk is much smaller. The SSU is the only University in the Sakhalin region, quite different from Sapporo with its many universities. Still, Yuzhno-Sakhalinsk is a unique place for foreigners, as there are some places of interest like the beautiful, old Japanese building which houses the Sakhalin Regional Museum and the only museum of the kind in the world—the Literary and Art Museum of Anton Chekhov's Book *"Sakhalin Island."*

Overall, Hokkaido University has good reasons to be proud of its history, university campus, remarkably talented scholars, faculty, staff and students, and international cooperation. However, we should keep in mind that international cooperation based merely on economic and political agreements between the governments is not enough for mutual understanding between the communities or nations; it must be based on intellectual and moral solidarity of the peoples. The HU Ambassador and Partner program will surely lead us to new great achievements. Let's be ambitious together!

1. **E**ast **R**ussia-**J**apan **E**xpert **E**ducation Program. The RJE3 program is intended to develop the professional groups that play leading roles in the fields of sustainable environment, sustainable culture and sustainable development in the Far East and the Arctic Circle.
2. The **H**okkaido **U**niversity **S**hort-**T**erm **E**xchange **P**rogram. A "junior year abroad" type program designed to provide undergraduate students from affiliated universities with the opportunity to study at Hokkaido University
3. The **J**apanese **L**anguage and **C**ulture **S**tudies **P**rogram. A "junior year abroad" type program for undergraduate students majoring in Japanese language and culture from affiliated universities with the opportunity to study at Hokkaido University.

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1. Prof. Korsunov and Prof. Balitskaya with HU students (Faculty of Education) participating in short-term exchange program (ESD program) in the SSU (September, 2018).
2. Prof. Korsunov received the Letter of Honor from the Minister of Foreign Affairs of Japan Taro Kono handed by the Consulate General of Japan Ryuichi Hirano (October, 2018).
3. Aerial photo of Yuzhno-Sakhalinsk.
4. Administration building of Sakhalin State University.

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Dr. Gulmira Sultangalieva

Professor, Chair of Department of World History, Historiography and Source Studies, Al-Farabi Kazakh National University (Almaty), appointed as a Hokkaido University Ambassador in January 2018

The first thing that came to my mind when I received the offer to become a Hokkaido University Ambassador was a feeling of honor and pleasant surprise. As an Ambassador, I want to contribute to collaboration between Hokkaido University and Al-Farabi Kazakh National University (KazNU), so that more people from Kazakhstan will become acquainted with the history and culture of Japan, and also with initiatives to develop curricula for foreign students at Hokkaido University, and facilitate the invitation of students and scholars from Hokkaido University to KazNU.

It is well known that Hokkaido University is an active participant in the international scientific community. Evidence of this can be found by looking at the Slavic Eurasian Research Center, which conducts specialized, interdisciplinary, comparativist studies on the history of empires, the Soviet Union, the post-Soviet space, Central Asia, and Eastern Europe. This Center is the initiator of the organization of scientific conferences, seminars with the involvement of leading scientists of the world, publications of scientific monographs in the areas of research center. I participated in the Foreign Visitors Fellowship Program, which gave me the opportunity to work in the Center for nine months from July 2007 to April 2008. I took part in the wonderful scientific Winter International Symposium "Asiatic Russia: Imperial Power in Regional and International Contexts" and related seminars, consulted with Japanese scientists like professors Tomohiko Uyama, Kimitaki Matsuzato, Norihiro Naganawa, and many others. I had the opportunity to present the results of my research at the annual session of the Association of Researchers on Russian History.

I am pleased to hear of the opening of the Hokkaido University Moscow Office, as I believe that this is an important step in establishing cooperation between Hokkaido University and universities not only in the Russian Federation, but also in the entire post-Soviet space, including Kazakhstan. I hope that this center will become a local meeting place of leading scientists of the post-Soviet space, to promote academic mobility of students, teachers, and scholars.

My first impression of the city of Sapporo was immediately expressed in one phrase: how could Sapporo have so much in common with the cultural capital of modern Kazakhstan, Almaty? Mountain panoramas, gardens, groves, boulevards, air saturated with the smell of flowers, and wide streets are just some of the similarities. The history of the development of these cities also has many similar points: both are young cities, the development of which began in the second half of the nineteenth century. The most surprising thing is that they are located at the same coordinate of northern latitude - 43°.

Finally, I am thankful to Hokkaido University for trusting me for the appointment as an HU Ambassador. I believe that Happiness comes out of contentment, and contentment always comes out of service, so serving as an HU Ambassador is a great honor for me.

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1. Celebration of "Nauryz" in KazNU. Horseback Falconry with a golden eagle is a cultural symbol for the Kazakh people. Nauryz is the Persian New Year, the day of the vernal equinox.
2. The campus of KazNU is located in a picturesque place in the foothills of the Zailiyskiy Alatau, the center of culture in Almaty.
3. The Triumphal Arch of Al-Farabi KazNU Alumni "Mangilik el" was opened in 2017. Mangilik el is the idea of a people who live observing history, the present and the future.
4. Professor Sultangalieva and scholars from Japan including HU's Slavic-Eurasian Research Center (September 8, 2018).

Hokkaido University Archives

140 years of challenge

SCENE-10

1895-1907

Sapporo Agricultural College: 25th Anniversary

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1. Sapporo Agricultural College, edited by the Sapporo Agricultural College Student Association (1898, Hokkaido University Archives).
2. Green arch, modeled after the Arc de Triomphe (1901, Hokkaido University Archives).
3. Yuzo Hoshino (1899, Hokkaido University Archives).
4. Group photo taken on the day of the 25th anniversary ceremony (1901, Hokkaido University Archives).
5. Fourth-year students in the regular course dressed in red tailcoats and "silk" hats (1901, Hokkaido University Archives).
   The second person from the right in the second row is Yuzo Hoshino, and the fourth person from the left in the third row is Takeo Arishima.
6. The venue for the ceremony and party on the second floor of the drill hall (1901, Hokkaido University Archives).
7. The 25th Anniversary Athletic Meet (1901, Hokkaido University Archives).
8. The illuminated drill hall (1901, Hokkaido University Archives).
9. Takeo Arishima (1901, Hokkaido University Archives).
   The person in the middle is Arishima, and to his left and right are his classmates Kokichi Morimoto and Hiroshi Mori.
10. Report on the 25th Anniversary Ceremony and Party (1901, Hokkaido University Archives).

Making a case for the establishment of Sapporo Imperial University

The Sapporo Agricultural College Student Association published a brochure entitled Sapporo Agricultural College in June 1898. The association was a student council focusing on literary activities, and the brochure, edited by students in the college's regular course (*honka*), aimed at providing information about the college to prospective students and the public at large. The brochure consisted of four articles: 1. Sapporo and Studies, which outlined the learning environment in Sapporo, 2. Sapporo Agricultural College's Past, which illustrated the history of the college, 3. The Presence of Sapporo Agricultural College, which described the college's faculty members, curriculum, facilities, and tuition, and 4. Recommendations for the Establishment of Sapporo Imperial University. The last article was prompted by the June 1897 establishment of Kyoto Imperial University by the Ministry of Education as the second university following Tokyo Imperial University, because Sapporo Agricultural College (SAC) looked upon itself as an academic center on par with a university. After the publication of this article, the college worked with local governments in Sapporo and Hokkaido toward elevation to university status.

In those days, the SAC was at a crossroads. In 1895, the SAC, which had been administered by the Hokkaido Government, was placed under the direct control of the Ministry of Education, which led to the college's reorganization and curriculum changes. The government then ceded massive tracts of government land to the college, which later turned the land into experimental farms and forests. In 1898, President Shosuke Sato submitted the Proposal for the Expansion of Sapporo Agricultural College to the Minister of Education, and a decision was made to relocate the college to a new campus. In 1901, the college celebrated the 25th anniversary of its founding, gaining the opportunity to look back on its raison d'etre.

"What sets our college apart from other schools is its principles of continue to work on the development of the college so as to

"For eternal happiness and immortal honor, we shall always aim and devote all our time to learning to stand on our own two feet."

The SAC: 25th anniversary

On May 14, 1901, the SAC held a ceremony and party commemorating the 25th anniversary of its founding with the engagement of local community members. Invitations were sent to numerous people, ranging from alumni and those related to the Hokkaido Government, higher education and agriculture to a government minister and Diet members. A huge green arch modeled after the Arc de Triomphe was erected at the main gate of the SAC, and on its top was a school emblem-like decoration of a star surrounded by ears of rice. Another green arch was constructed at the entrance to the event venue, the drill hall (today's Sapporo Clock Tower), and a large framed board with the phrase "Happy 25th Anniversary" written in millet grain and black soybeans was posted on the façade of the building. Inside the venue were portraits of Dr. William S. Clark, the first vice president of the SAC, and Kiyotaka Kuroda, the Director General of the Hokkaido Development Commission, as well as a board on which "BOYS, BE AMBITIOUS" was written in English in uppercase letters. At the ceremony, President Shosuke Sato outlined the history of the college and said, "What sets our college apart from other schools is its principles of pursuing both learning and virtue. I hope we continue to work on the development of the college so as to contribute to the wellbeing of society."

Completion of the SAC anthem

Students played a central role in organizing the post-ceremony party, during which they sang the newly minted anthem of the SAC to a piano accompaniment. The lyrics of the song titled *Tokoshie no Sachi* (Eternal Happiness) were written by Takeo Arishima, a senior in the SAC's regular course. His journal entry of April 21, about three weeks before the event, indicates his determination to stay up all night to finish the lyrics: "Tonight, I have to write the lyrics of the song we'll sing at the 25th anniversary celebration, so I'll probably need to stay up all night." As if responding to the refrain "*Tomo tare, nagaku tomo tare* (Be friends, be friends of eternity)," his journal entries in those days include expressions of his affection for friends, including "I'll stress how much we should value friendship and pray that friendships with our classmates will continue to thrive in this world and beyond" and "Exchanges with friends are the most beautiful among all the flowers of love that flourish in this world." With graduation just around the corner, he may have been reminiscing about his school days, trying to savor every last moment before graduation.

A close friend and classmate of Arishima's, Yuzo Hoshino, later recalled the 25th anniversary celebration in detail: The illuminations of the drill hall marked the first time a building was decorated with lights in Sapporo. Students from the Department of Civil Engineering put up huge tents using logs to serve food and drinks to attendees. In the afternoon, an athletic meet was organized, attracting numerous spectators. In a lantern procession held at night, Hoshino, Arishima and other fourth-year students participated, all dressed in red tailcoats and "silk" hats. The tailcoats were made of cheap cloth, and the "silk" hats were made by covering cardboard with black fabric.

pursuing both learning and virtue. I hope we contribute to the wellbeing of society."

higher. We cultivate ourselves day and night

Anniversaries as opportunities for self-reflection and evaluation

The 25th anniversary celebration demonstrated the pride of the SAC at a turning point, and six years later, in 1907, the SAC was elevated to Imperial University status as the Agricultural College of Tohoku Imperial University.

Hokkaido University has since celebrated its milestone anniversaries—the 50th, 80th, 90th, 100th, 120th, and 125th anniversaries—in various ways, including by documenting the university's history, holding exhibitions, lecture meetings, and ceremonies, and constructing commemorative buildings. These anniversary projects have reflected the current situations of the university. A scholar of college history once said that anniversary projects, which are ways to look back on the history of the college, are opportunities for self-reflection and evaluation.

Another excellent opportunity will come to review the status of Hokkaido University when it celebrates its 150th anniversary in 2026.

Hokkaido University HISTORY 1895-1907

1895	March	The SAC receives tracts of government-owned land from the Hokkaido Government (later turned into experimental farms).
	April	The SAC is placed under the direct control of the Ministry of Education.
	September	The land owned by the SAC alumni association is transferred to the SAC (later turned into experimental farms).
1898	January	President Shosuke Sato submits the Proposal for the Expansion of Sapporo Agricultural College to the Minister of Education.
	June	The Sapporo Agricultural College Student Association publishes the Sapporo Agricultural College.
1899	February	The decision is made to relocate the college to a new campus.
	June	The construction of the new college building begins at the new campus site.
1901	March	The SAC obtains forests (later turned into experimental forests) from the Hokkaido Government as a source of maintenance funds to support the college.
	May	The 25th anniversary ceremony and party are held.
1903	July	The new college building is completed, and the SAC relocates to a new campus.
1907	September	The SAC is elevated to Imperial University status as the Agricultural College of Tohoku Imperial University.

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.

Topics

01

The Grand Chariot Supercomputer. *Grand Chariot* is French for the Big Dipper.

New Interdisciplinary Large-scale Computing System Now in Operation

The Information Initiative Center has introduced a new interdisciplinary large-scale computing system consisting of a supercomputer system and an intercloud system, and has launched services under the new system.

The new system constitutes the backbone of the university's support for researchers in Japan and elsewhere, as it serves as a joint usage/research center that integrates academic information infrastructure at the university.

A ceremony was held on January 10, 2019, to mark the launch of the Hokkaido University Interdisciplinary Large-scale Computing System.

With the world's 95th fastest supercomputer and a high-performance cloud system centered on bare-metal (physical) servers, the new system provides peak computing performance with about 20 times the peak speed of the old system.

What's more, a network of servers distributed over a wide area from Hokkaido to Kyushu is available as an "intercloud package" to support researchers in fields related to wide-area networks and distributed systems. Petabyte-class storage and remote backup services are also available for the long-term storage of research data.

To ensure efficient cooling of the system, the Information Initiative Center has introduced a water-cooling system in addition to the conventional air-cooling system.

The new interdisciplinary large-scale computing system is user-friendly for students and researchers within and outside of the university, and the Information Initiative Center welcomes joint research with private businesses and joint international research. The system is expected to enhance networking through data sharing and utilization, and to contribute to the promotion of collaboration and information-sharing across Japan.

The water-cooling system.

02

Associate Professor Shigeru Aoki selected to lead the Japanese Antarctic Research Expedition (JARE)

Hokkaido University Associate Professor Shigeru Aoki of the Institute of Low Temperature Science was selected to become the leader of the 61st Japanese Antarctic Research Expedition. The decision was made at the 153rd JARE general assembly meeting, hosted on November 8th by the Japanese Ministry of Education, Culture, Sports, Science and Technology. This marks the first time that a representative from Hokkaido University has been selected for the post.

The 61st Expedition corresponds to the fourth year of the "Japanese Antarctic Research Project Phase IX", a 6 year-long project launched in 2016. The main theme of the expedition is "Variations of global systems revealed by Antarctic observations", and will consist of observational activities on glacial, marine, and sea ice properties, utilizing the "Shirase" research vessel in order to try and further explain the relationship between ocean waters and ice sheets. The expedition will be carried out over a four-month period from late 2019 into 2020. Preparations including member selection, training, and acquiring supplies, will be conducted over the upcoming year.

Sharing his thoughts on his selection, Dr. Aoki commented "I feel somber, as being leader of the expedition is a serious responsibility. The international community is expecting results from the Japanese research being conducted in the Antarctic. In addition to continuing to build on the past 60 years of work that JARE has undertaken, I would also like to successfully conquer new challenges during the 61st expedition."

Dr. Aoki has previously been a member of the 39th Winter Expedition, as well as the 43rd and 56th Summer Expeditions. He has also participated in several Australian-sponsored research ship expeditions. In addition to his duties as leader of the 61st Expedition, Dr. Aoki will also serve as leader of the Summer Expedition.

Photo taken by Kazuya Ono.

Hokkaido University Associate Professor Shigeru Aoki during the *Umitaka-maru* research expedition in 2012 in the Southern Ocean.

Memories of Spring

Photographer: Akihito Yamamoto

a

b

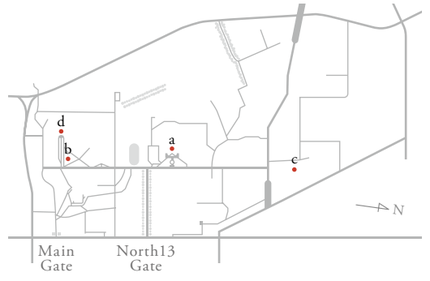
c

d

At this time of year, when it is getting warmer day by day, the balmy breezes you feel on your face and the fragrances in the air provide a seasonal color palette. Close your eyes amid this seasonal change and you may recall the days when you felt excited about your new life.

You may remember the day when you looked hopefully on your nascent campus life or when you felt a rush of excitement—feelings of anxiety and exaltation—as you embarked on the journey of your career.

Occasionally recalling feelings from your younger days is sure to rekindle your aspirations.



a. Graduate School of Engineering
b. Entomology and Sericulture Hall
c. The Second Farm
d. Graduate School of Agriculture

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