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Summer 2020



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FEATURE >>>

## Japanese Willpower to Save Lives

Pioneers explore new possibilities in medical care



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FEATURE >>>

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COVER

Prime Minister ABE Shinzo attended the Special ASEAN Plus Three Summit on Coronavirus Disease 2019 (COVID-19) via video conference on April 14, 2020. In the meeting, discussions were held about the economic conditions of each participating country and preventive measures against the spread of the infection.



# Altruism Moves Research on Infectious Diseases Forward

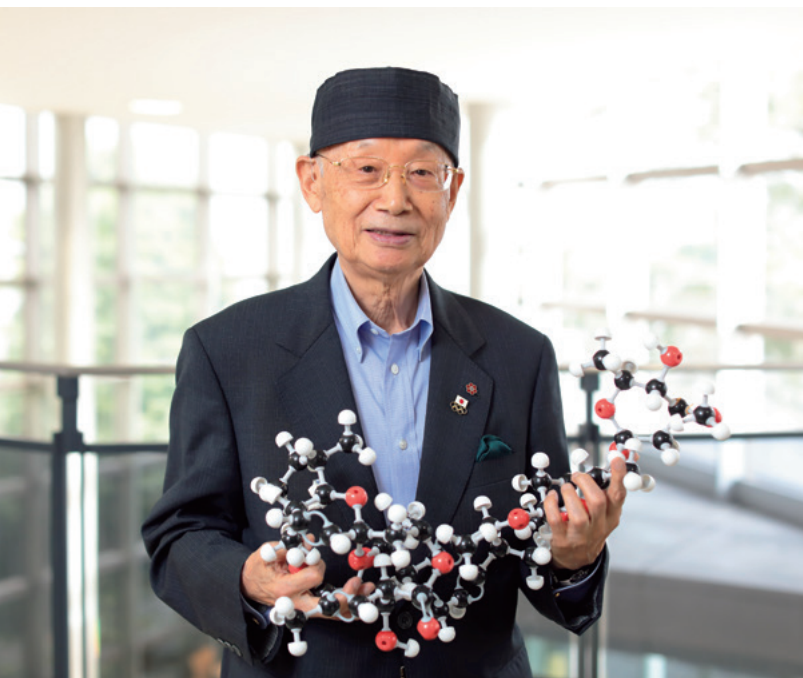
The world is in the midst of its battle against COVID-19. Japan has an admirable record in research on infectious diseases, such as the discoveries of the plague bacillus (*Yersinia pestis*) and *Shigella*. What is the spirit of Japanese research that lives today in Nobel Laureate ŌMURA Satoshi that motivated him to develop anti-parasitic drugs?

Parasites, bacteria, and viruses —human beings have always had to face infections caused by numerous different pathogens. The newest to strike, COVID-19, is just one example of these infections, and the world is now racing to develop drugs to combat this disease. In the long fight against infectious diseases, Japanese researchers have

often scored great achievements. In 1889, KITASATO Shibasaburo, the founder of The Kitasato Institute, was the first person ever in the world to grow the tetanus bacillus in pure culture. He discovered the antibodies that fight this toxin and established a serum therapy for tetanus. He is also one of the discoverers of the infectious agent of bubonic plague,

contributing to the development of infectiology.

Other notable Japanese researchers include SHIGA Kiyoshi, for his discovery of *Shigella*, and UMEZAWA Hamao, who found kanamycin, an effective antibiotic against drug-resistant tuberculosis. Of all these researchers, one man has attracted particular attention in recent years;

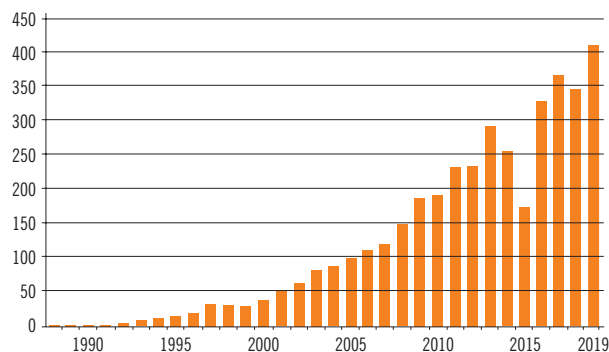


Professor ŌMURA Satoshi holding a molecular model of avermectin, the precursor to ivermectin.



Ivermectin has saved the lives of many people and animals throughout the world.

Number of ivermectin treatments donated by Mectizan (brand name of ivermectin) Donation Program (in millions)







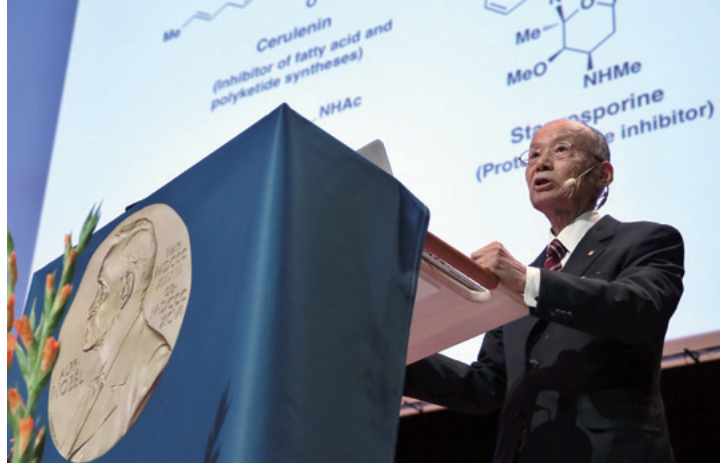
Prof. Ōmura's motto is "jissen-kyūko (実践躬行)," which means to follow one's principles. Accordingly, he has been pursuing his interests across many fields. In fact, he is a man of action, who even by himself persuaded pharmaceuticals to develop new drugs. He is shown here holding the motto written in his own hand.

Professor ŌMURA Satoshi, winner of the 2015 Nobel Prize in Physiology or Medicine.

Up until now, Prof. Ōmura has discovered more than 500 compounds made by microorganisms, leading to the development of new drugs. He won his Nobel Prize (jointly awarded to William C. Campbell, a researcher at the Merck Institute for Therapeutic Research) for the discovery of the antibiotic avermectin and the development of the anti-parasitic drug, ivermectin, a derivative of avermectin. Ivermectin was produced from microorganisms isolated from a soil sample he collected. The drug has a remarkable effect, even in small quantities, and contributed greatly to increased food production when launched as an anti-parasitic for livestock.

Ivermectin was subsequently found to be effective against human diseases such as onchocerciasis (commonly known as river blindness), caused by nematodes, and lymphatic filariasis (commonly known as elephantiasis). These diseases were previously widespread and plagued people in Africa, Latin America and elsewhere. With the help of the World Health Organization's

At the 2015 Nobel Prize Memorial Lecture, Prof. Ōmura continued his persistent research into antibiotics for livestock, something that had received little attention as a subject of research, and that led to the development of ivermectin.



(WHO) donation program, which Merck & Co. Inc. and The Kitasato Institute assist with, today ivermectin reaches 400 million people a year. These diseases have already been eradicated in some countries. Ivermectin is used as a treatment for strongyloidiasis and scabies and has also been reported to inhibit the growth of certain viruses such as HIV and dengue fever. While it is necessary for the virus to enter the nucleus of the parasite's cells in order to multiply, in vitro experiments have shown that ivermectin inhibits the function of substances that carry the virus into the nucleus. With this as the case, the same effect may be shown on the currently rampant novel coronavirus.

So how has Japan been able to make such great strides in the field of infectious diseases? Prof. Ōmura cites the country's "altruistic spirit" as one reason. "The character of the Japanese people is that they naturally want to do something for others. Japan has suffered from frequent natural disasters such as earthquakes and typhoons, but I think that those who have survived such ordeals have learned the importance of cooperating with each other."

Demonstrating this altruistic spirit, many Japanese researchers are currently working hard to develop drugs for COVID-19. At Kitasato University, where Prof. Ōmura is a

distinguished emeritus professor, a project has already begun for the early discovery of therapeutic drugs. In this project, the Institute plans to implement a large-scale screening of existing drugs, including ivermectin.

"There are still many infectious diseases left in the world that affect the most vulnerable in society. We must work together to combat these diseases. It is not ambition for success but desire to help people that is important," he says.

There is no end to the road of research into infections. Japanese scientists will hold onto their passion for the exploration of infectious diseases, a research spirit that has been passed down by their predecessors. They will continue their fight to save people blighted by such diseases. ✱



Onchocerciasis, a major cause of blindness, is about to be eradicated through a large-scale ivermectin donation program. Receiving a warm welcome from children in Ghana.

# Containing the Spread of COVID-19 by Utilizing Tensile Membrane Technology

While the world continues to fight against the novel coronavirus pandemic, Japanese-made tents are playing a pivotal role in preventing further infections in medical settings. Taking advantage of its membrane technologies, a long-established tent manufacturer in Japan has developed a lightweight and compact negative pressure tent specifically designed for medical use, and has delivered this product around the world.



The tent's interior is equipped with a negative pressure filter system to prevent the outflow of the virus. It is used for PCR tests for COVID-19.

Taiyo Kogyo's negative pressure tent has been used both in Japan and abroad as a means to combat infections caused by the novel coronavirus.

In a world where the coronavirus pandemic continues to rage on, the prevention of hospital-acquired infections is an urgent issue for the treatment of patients on medical sites. Therefore, it is extremely important to keep spaces ventilated during medical examinations and cut off from possible transmission routes. The negative pressure tent from Japan plays a pivotal role

in creating such environments. Lightweight and compact, it keeps the internal pressure low and controls the flow of air to prevent viruses from spreading.

The manufacturer of the negative pressure tent is Taiyo Kogyo Corporation, founded in 1922 in Osaka. The firm, which originally made camping tents only, began to make use of its cutting and

sewing techniques in the 1970s to manufacture other products and building structures from lightweight, durable membranes. By improving its technologies to respond flexibly to various demands in material development, manufacturing, and construction, the company's products have been used in such places as the roofs of dome-shaped stadiums, facades for high-rise buildings,

and other infrastructures, such as bridges.

Taiyo Kogyo has an extensive track record abroad, having worked on membrane structures for Denver International Airport in the United States and the Pompidou Center Metz in France. In 2011, the company was involved in a project in Medina, Saudi Arabia, to build large umbrellas. Taiyo Kogyo was contracted to manufacture the membrane umbrella portion, which achieved sophisticated design and a strength that can withstand the severe weather conditions in the Middle East. The membrane was developed utilizing processed fluorocarbon resin through a delicate technique.

While working on large-scale structures in Japan and overseas, Taiyo Kogyo first made a compact tent in 2006 that was easy to use in disaster-affected areas. The following year, the company utilized the small tent to create a negative pressure tent for medical use. By combining the specialized air-controlling membrane with the negative pressure system, an essentially sealed space that was able to prevent viruses from escaping was created. As such, the tents have been used



"I would like to solve all sorts of problems while communicating with people from all over the world," says ARAKI Hidefumi, the company's president.

as temporary inspection rooms and clinics during infectious outbreaks. After being effectively used during the swine flu pandemic of 2009 and the 2015 MERS outbreak in South Korea, the tents have obtained a high reputation among doctors and other people in the medical field.

As the novel coronavirus pandemic gained pace this March, the demand for the tents skyrocketed not only in Japan but also abroad. "The strength of our membrane is that it can be easily combined with various technologies, to meet any particular demand," asserts the company's president, ARAKI Hidefumi. "Up until now, our target has been largely constructions, but in the future, we would like to extend our reach to any issue involving medical care in the domestic and global market."

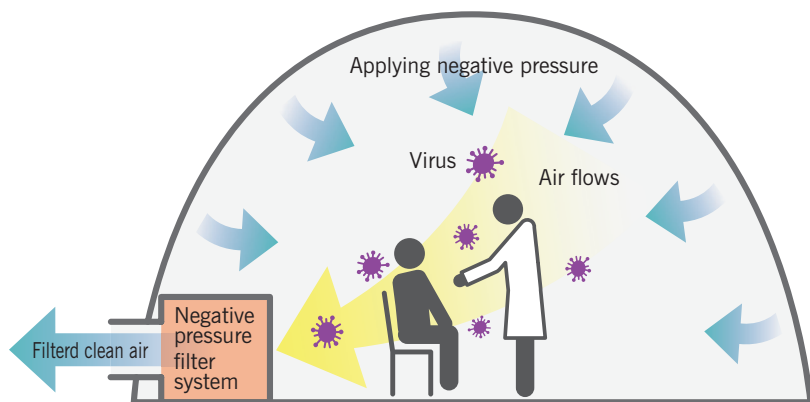
Besides Japan, Taiyo Kogyo's membrane technology is used in many huge structures around the world, such as Denver International Airport (the United States).



To create safer and more secure spaces, Taiyo Kogyo is currently working on developing a tent that uses ultraviolet rays to kill the virus itself. Also, a special protective suit, currently a prototype, allows infected patients in hospitals to communicate with their families face-to-face. Using membrane technology in that way, the company is able to support medical sites in their fight against COVID-19.

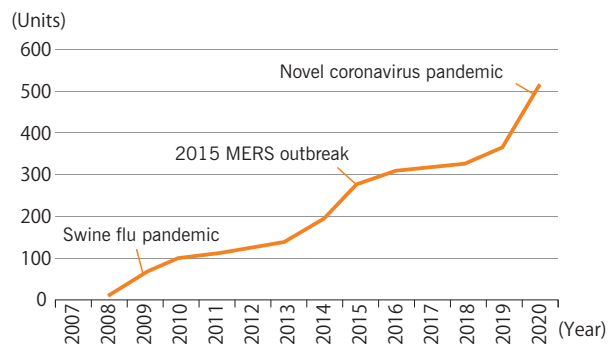
Taiyo Kogyo has always been looking toward the future in terms of its own product development, with the desire to "provide exceptional experiences to all sectors of the medical field through its membranes." Versatile ideas, like the ductile membrane, might just be the driving force needed to overcome the global difficulties today. \*

### How to Prevent Outflow of Virus with Negative Pressure Tent



\*Collecting 99.99% of the particles bigger than 0.3μm

### Cumulative Number of Taiyo Kogyo's Negative Pressure Tent Shipments





# Vibrant SME Unleashes Potential of Microsurgery

A medical device manufacturer in Japan has enabled surgery that had been previously considered impossible by developing the world's smallest needle. The small company continues making efforts together with physicians to supply quality needles worldwide, thereby saving the lives of patients awaiting treatment.

One spring day 35 years ago, a one-year-old toddler had lost the end of her right middle finger by touching the belt of a sewing machine as her grandmother was pressing the pedal. From that day on, the girl avoided showing her disfigured finger to others, spending every day desperately hiding what she considered a terrible imperfection. At the same time, her grandmother, who had caused the irreversible injury to her grandchild, along with the girl's parents, who were helpless to prevent the accident, suffered for many years from psychological scars. Yet today, the girl's right middle finger has a proper tip on the end. Seventeen years after the accident, when she was 18, she had the end of a toe

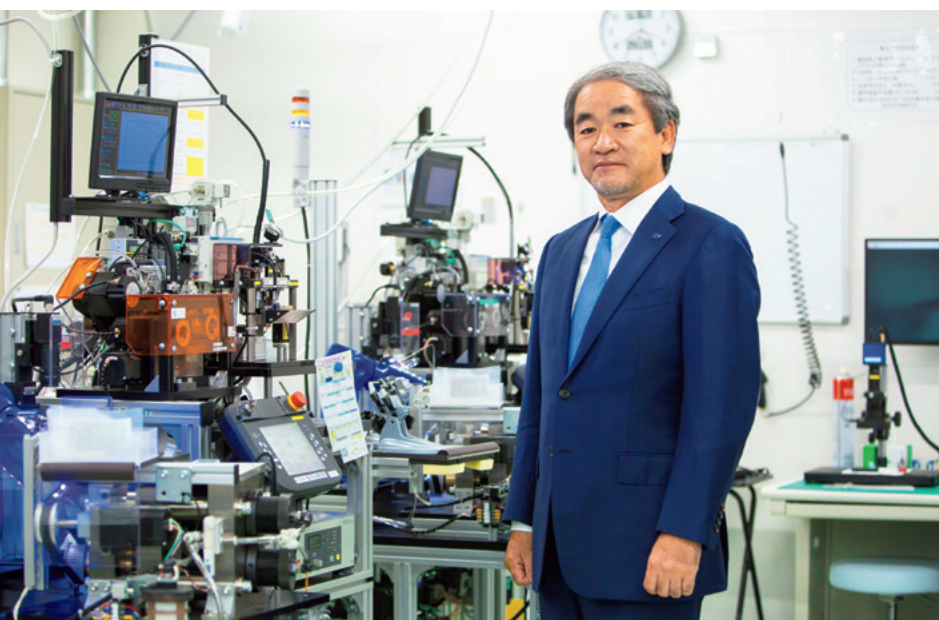
partially removed and transplanted to her finger.

What returned her finger to normal was a new field of plastic surgery, known as microsurgery, that seems like magic. The device that enabled the magic is a needle—developed by Kono Seisakusho Co., Ltd., a Japanese medical device manufacturer—that boasts the smallest diameter in the world, at 0.03mm. The needle has pioneered a new area of operations, including transplants in which blood vessels with diameters of 0.5mm are connected, or operations requiring lymphatic vessels and veins to be connected.

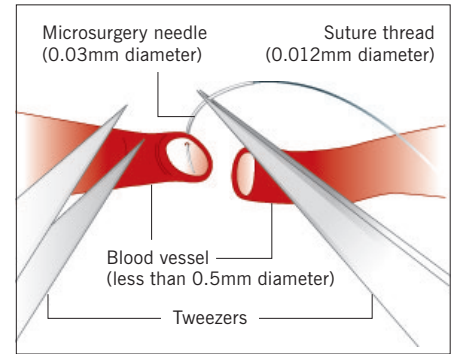
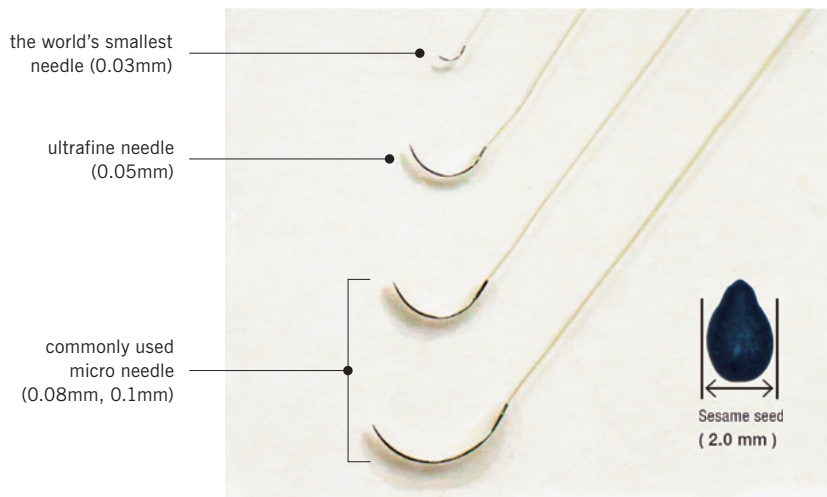
Kono Seisakusho, which mainly deals with suture needles and suture thread, caters to diversifying needs

in the medical device sector, with over 10,000 product specifications, of which 4,000 are on the market. According to the company's president, KONO Junichi, "No matter how small the market is, if there are patients in need, we should make a product for them. As a small and medium-sized enterprise (SME) that covers a niche market that big companies cannot, we would like to fill that gap in medicine."

Kono Seisakusho focuses on developing new breakthrough products. To foster an innovation mindset, the company holds interdepartmental meetings and sets aside 30% of employees' regular working hours for independent projects. President Kono says, "We are a manufacturer, so we have to keep making products. To that end, we need a way to challenge ourselves without worrying about failure." Responding to his enthusiasm, employees have invented many groundbreaking products in addition to microsurgery needles, such as the world's first suture needle with an octagonal shaft to prevent slippage, and a hemoclip for microscopic



"By opening up even more niche markets, we seek to become an unrivalled company anywhere in the world," saying President Kono, exhibiting his pride in his SME. Next to him is a needle production machine that his company developed.



The world's smallest needle, with a diameter of 0.03mm, guides a suture thread just 0.012mm wide. Of course, it is invisible to the naked eye, so surgeons look through a microscope during operations.

blood vessels that is made with a high-strength resin.

Another of Kono Seisakusho's advantages is its in-house development of the materials, tools, and manufacturing equipment for its products. Making precision medical tools requires the elaborate skills of craftsmen. Although the company has fostered the professionals to satisfy that requirement, it has also been very aggressively automating its production processes. That approach maintains the high standard of the products, while sustaining the company's manufacturing skills and knowledge so that they are passed on seamlessly to the next generation.

Dr. KOSHIMA Isao, professor and chief of the International Center for Lymphedema, Hiroshima University Hospital, has opened up new frontiers for microsurgery with the company's microneedles. As he explains, "I've had many of my patients express their gratitude for 'saving my life,' but their thanks should above all else go to Kono Seisakusho's microsurgery needles." He emphatically adds, "To save even more lives, physicians such as myself need to do even more to tell the world about the potential of the technology."

Kono Seisakusho has received

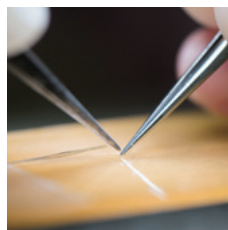
an endless stream of inquiries from other countries about its microsurgery needles, but those products have yet to be used so often in operations around the world. The reason is that few countries have approved the company's needles and the number of surgeons able to use them remains stagnant. That is why Kono Seisakusho is working with physicians in the field such as Dr. Koshima, while concentrating on developing the products that they truly need to save lives, as well as on raising the company's profile among medical professionals across the globe. The powerful sense of mission—shared among engineers and physicians to improve upon medical practice—is

the driving force behind innovative craftsmanship. Kono Seisakusho's ultra-small needles, once they come into more widespread use, have a promising future saving the lives of many people worldwide. \*



Kono Seisakusho's needles have earned a fine reputation among doctors beyond Japan as well. This photo was taken in Serbia at a 2019 conference of the European Federation of Societies for Microsurgery.

Right: Kono Seisakusho is all about high-mix, low-volume production. Numerous products are manufactured side-by-side in the company's factory. Bottom: Making such small products requires precise work by hand during the production process. The photo shows a microsurgery suture needle being threaded.





# ES Cells Give Small Lives a Chance for Tomorrow

The National Center for Child Health and Development has successfully performed the world's first transplant of human ES cell-derived hepatocytes into a human. What is the potential of these cells, which saved a small life, to bring great happiness?

**T**he National Center for Child Health and Development (NCCHD) in Tokyo performed a transplant of human ES (embryonic stem) cell-derived hepatocytes, generated at the center, into a six-day-old newborn baby during a clinical trial. It was the first time in

the world that human ES cell-derived hepatocytes were transplanted into a human.

The infant patient had urea cycle dysregulation, in which one of the liver's enzymes is absent, resulting in elevated ammonia levels in the body. In many cases, the condition

can cause infants to suffer serious brain injury as a side effect, or even to die immediately after birth. And for technical reasons owing to their small bodies and organs, liver transplants are normally difficult to perform on such newborns. In this case, NCCHD transplanted an HAES, a therapeutic agent derived from ES cells for hyperammonemia, to the baby and succeeded in improving the liver function temporarily until the baby's weight reached 6kg, the minimum weight required to achieve a liver transplant safely. Five months later, the baby received a liver transplant from its father and was discharged from the hospital without any complications.

Dr. KASAHARA Mureo, the doctor in charge of the surgery, explains



Dr. Kasahara says that the biggest factor behind making the "translational medicine" successful was that the clinical site and the laboratory worked together as one team. A greater number of clinical trials are planned for the future.

The National Center for Child Health and Development was established to facilitate coordination between the hospital and laboratory for the advanced medical treatment of diseases related to the reproduction cycle, from fertilization and pregnancy through to adulthood.





the benefits of this treatment as follows: “We were able to save a life that couldn’t have been saved before. In many previous cases, patients with this disease used to undergo liver transplants only after further damage had occurred, but with the new treatment, neither disabilities nor complications result from the disease. In the treatment, we injected the HAES via the bellybutton, enabling us to carry out the operation while barely scarring the baby’s body.”

The ES cells that make the treatment possible are pluripotent stem cells generated from a human fertilized egg. Such cells, which have drawn much attention recently for their potential in the field of regenerative medicine, have the distinctive feature of being able to differentiate into any type of cell, as well as to propagate indefinitely. Moreover, because of their unlimited proliferative potential, the same cell can be created and distributed repeatedly. It is for this reason that

ES cells are rigorously regulated in terms of bioethics and safety. The NCCHD is one of only two institutions in Japan permitted to establish ES cells.

Another doctor at the NCCHD, Dr. UMEZAWA Akihiro, successfully used ES cells to generate hepatocytes that are highly functional in lowering ammonia concentration; that was what led to the transplant this time. Dr. Umezawa has this to say about the future of ES cells: “The possibilities of ES cells are unlimited.



Dr. KASAHARA Mureo, executive director of the Organ Transplantation Center, was in charge of the operation. He says, “To be able to treat patients while preserving their quality of life is even more meaningful when one considers what it means to their family and to society.”

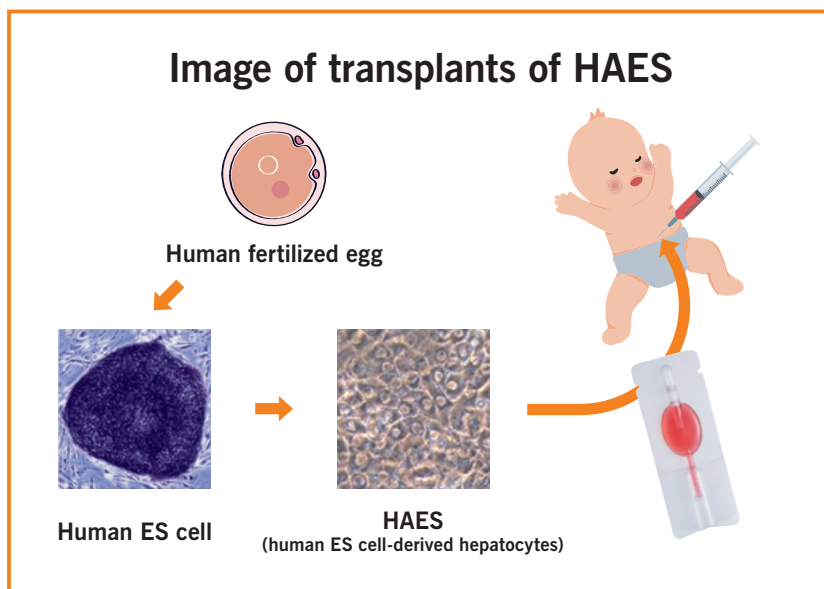


Dr. UMEZAWA Akihiro, director of the Center for Regenerative Medicine, was in charge of HAES production. He says, “I am hoping that ES cells will offer breakthroughs for the many patients for whom effective treatment or medicine has yet to be found.”

Of course, that means it is even more important to proceed with caution, care, and transparency. We must be able to deal with each patient individually, while maintaining the same quality. As we move forward, we would like to explore a wide range of applications and promote collaboration with other medical institutions.”

Dr. Kasahara, in charge of the latest transplants, is a specialist in pediatric liver transplants, having performed more than 1,500 such operations around the world. He says, “Nothing could be so wonderful as seeing regenerative medicine expand in the future to include fulminant hepatitis, liver cirrhosis, and hemophilia, and restoring those patients to health without their needing organ transplants. That might cause me, however, to lose my job.”

News of the operation’s results quickly spread all over the world, and already, the NCCHD has received requests for joint research and clinical consultations from such countries as the United States, Canada, the United Kingdom, and India. An endeavor to save one small life born in Japan has thus opened new doors for medical treatment. ✨



# Handy Fetal Monitor Brings Peace of Mind to Mothers

Japan is world-famous for its top-class perinatal care. The prefecture with the lowest maternal and prenatal mortality rate in the country is Kagawa, in western Japan. Now, a company in the very same prefecture has produced a new device and system facilitating safe pregnancies worldwide.



Left: The Petit CTG is simple to use, providing OB/GYN professionals with the fetal heart rate remotely, and almost in real time.

Bottom: The heart-shaped Petit CTG comes in blue for the mother's cardiotocography, and pink for the baby's.



From the time a fetus is inside the womb until immediately after birth, fetal heart rate is an incredibly important piece of information for determining the health of a baby. It used to be the norm for an OB/GYN (obstetrician/gynecologist) to use a stationary fetal monitor to measure a baby's heart rate. Melody International Ltd.,

a startup in Kagawa Prefecture, has downsized and digitized the device, enabling the remote monitoring of pregnant women and fetuses worldwide.

A fetal monitor uses ultrasound to provide a real-time look at the fetal heart rate. Back in the 1970s, HARA Kazuhiro, M.D., Ph.D., a gynecologist who is now a specially appointed

professor at the Seto Island Sea Regional Research Center of Kagawa University, and others applied the Doppler method to ultrasound and combined it with the autocorrelation function to develop the Doppler-based fetal monitoring system. The system later became the standard for prenatal care around the world, making a great contribution to



Melody International CEO OGATA Yhuko (left) and HARA Kazuhiro, M.D., Ph.D. Their collaboration is helping to improve perinatal care not only in Kagawa, but also all over the world.

reducing prenatal and neonatal mortality rates.

Prof. Hara says, “It is the mission of an obstetrician to do everything in his or her power to help babies be born strong and healthy.” After inventing the monitoring system, he went on to help build a world-class perinatal care system in Kagawa Prefecture by making fetal monitors mobile and applying ICT to medical data management.

Living in the same prefecture as Prof. Hara is a woman who knew of his research, and who wanted to “deliver safe and secure births to mothers all over the world, using fetal monitors and ICT.” That woman is OGATA Yhuko, who was previously promoting an electronic medical-record business in Kagawa. In 2015, she founded Melody International.

With Prof. Hara’s help, the company produced a mobile fetal monitor in 2018 called Petit CTG, which fits in the palm of the hand. The device is different from all those that came before, as it has the same capabilities as conventional stationary fetal monitors in a hospital. When a pregnant mother places it on her belly, the endearingly heart-shaped device measures the sound of the baby’s heart and the extent to which the mother’s belly has stretched. Users also have access to Melody i, an IoT (Internet of Things) platform that allows them to store measurements on a cloud-based service and share

them with OB/GYN professionals via smartphones and tablets. That way, the mother can learn about the health of the fetus without having to visit the hospital. That is especially helpful for mothers living on remote islands and in secluded areas, as well as for working mothers.

The device should also make a major contribution to achieving the Sustainable Development Goals (SDGs) target of lower maternal and child mortality rates. As COVID-19 now makes it more difficult to leave the home, monitoring pregnancies with Petit CTG holds even greater significance.

Since 2019, Petit CTG has been introduced to all 25 public hospitals in Thailand’s Chiang Mai region, including clinics in hard-to-reach

mountainous areas where access to large hospitals is lacking. Nurses in the countryside can share data at any time with specialists in cities, and the device has also helped with emergency treatment. Furthermore, Ogata says that “pregnant mothers love the heart-shaped design, and the region has recorded an uptick in medical checkups.” While use of the device had already been established in South Africa, Zambia, and Myanmar, as of 2020 it is also available in Cambodia and Bhutan.

Ogata said, “I want to use Japanese technology to make fetal monitors more widely available. That way, we can reduce the stress of pregnant mothers who worry over not knowing about their soon-to-be-born baby’s health, and make them feel reassured about childbirth.”

Japanese technology, which instigated a revolution in obstetrics and gynecology 50 years ago, helps to save the lives of pregnant mothers and their babies around the world, this time with a lovely handheld device. \*



Hospitals in rural areas, such as in the Thai countryside, have also installed the Petit CTG. A pregnant mother’s information can be shared with nurses and doctors via smartphones and tablets, enabling quick decisions on whether the mother needs to receive treatment at a hospital offering more advanced care.



# A Prayer of *Origami* Cranes Comforts Cancer Patients

Radiation oncologist Professor KOMAKI Ritsuko paved the way for proton therapy at one of the leading cancer hospitals in the United States. What is the philosophy behind the medical care that she provides to patients?



After graduating from Hiroshima University School of Medicine, Dr. Komaki moved to the United States in 1970. Upon completing her residency at the Medical College of Wisconsin in Milwaukee, she joined the MD Anderson Cancer Center in 1988. She is a fellow of the American Society for Radiation Oncology.

“**A**s a specialist, you need to be strong-willed to choose the best treatment for a patient.” Radiation oncologist Professor KOMAKI Ritsuko, originally from Japan, is at the forefront of cancer treatment in the United States. An active voice on tumor boards, which meet to review treatments for

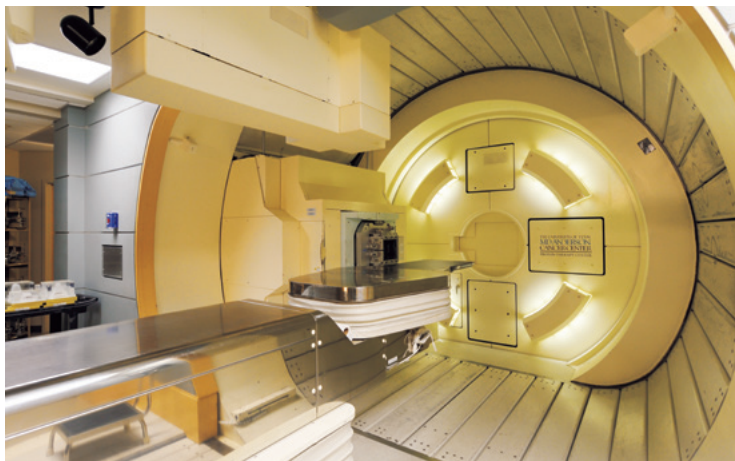
patients, she exhaustively discusses options with her medical colleagues. Surgery is not always the best option, and many patients’ lives have been saved thanks to her constantly “fighting” for them by thoroughly studying every option they have, so as to find the best treatment.

Dr. Komaki specializes mainly

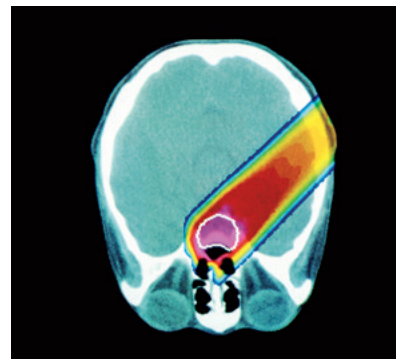
in radiation therapy for lung cancer. Having promoted advanced technologies such as intensity-modulated radiation therapy (IMRT) at the MD Anderson Cancer Center, she achieved excellent results in treatment. It is not uncommon to find examples of patients originally diagnosed with a recurrence of lung cancer and given only a few months to live who have gone on to survive for more than 10 years under Dr. Komaki’s care.

In recent years, she has focused on proton therapy. When proton beams are used, the depth of the irradiation can be controlled to stop it from going any deeper than the lesion. That mitigates side effects on normal cells by allowing the irradiation to be concentrated more on the cancer cells. The treatment is attracting attention as being less burdensome on the body for elderly cancer patients with declining organ function and multiple health conditions. Proton therapy also reduces the risk for second malignancies (the development of different cancer growths long after treatment) in children, who are more susceptible to radiation exposure.

Research trials, funded by the National Cancer Institute in the United States, are currently in



The equipment used at the MD Anderson Proton Therapy Center is made by Hitachi.



As proton therapy controls the depth of the irradiation to stop precisely at the cancer cells, it reduces side effects on neighboring normal cells. Less burdensome on the body, it thus holds promise as a treatment that offers better quality of life.

the final stage for proton therapy, with the aim of making insurance coverage available to younger people in the future. The technology of proton therapy is also advancing. Until now, it has been difficult to irradiate tumors that move about as a patient breathes, but accurately targeted irradiation has become possible through the development of real-time image-gated technology, which tracks such movement without any delay. The therapy is expected to be able to treat a wide range of tumors in the future.

Dr. Komaki worked together with her husband, the late James Cox, who was the director of radiation therapy at the MD Anderson Cancer Center, to establish the Proton Therapy Center within that institution. The instrumental technology of the new center, which opened in 2006, includes a proton therapy system created by Japanese manufacturer Hitachi, Ltd. The Proton Therapy Center attracts patients from around the world, and has already treated close to 10,000 people.

This medical pioneer's desire to become a physician has much to do with the fact that she grew up in Hiroshima. She says she was motivated by a determination to find out why some people exposed

to radiation developed atomic-bomb sicknesses while others did not. Although she was just two years old at the time of the bombing and escaped from being exposed to radiation, she moved to Hiroshima at the age of four. When she was 12 years old, her friend from school, Sadako, developed leukemia as a result of the bombing and passed away. There is now a large sculpture of *origami* cranes adorning the lobby of the Proton Therapy Center, which embodies the wish for all patients to get better, just as Sadako had folded paper cranes wishing for her own recovery.

Dr. Komaki retired from the MD Anderson Cancer Center in 2018, and now teaches at the Baylor College of Medicine as the

Professor of Radiation Oncology and Biology while concurrently serving as an advisor at Sapporo High Functioning Radiotherapy Center. She also acts as a visiting professor at Hiroshima University and Nagoya City University.

"If the survival rate of proton therapy improves, it will become the standard treatment worldwide." Giving advice to future radiation oncologists, she says, "I want them to have a broad knowledge of cell biology and immunology so that they can make the right choices for their patients." That is also the path that Dr. Komaki has followed over her 50-year career. ✿

Dr. Komaki pictured with a patient whom she had treated.



Embodying a wish for patients to recover, a sculpture of *origami* cranes adorns the MD Anderson Proton Therapy Center.



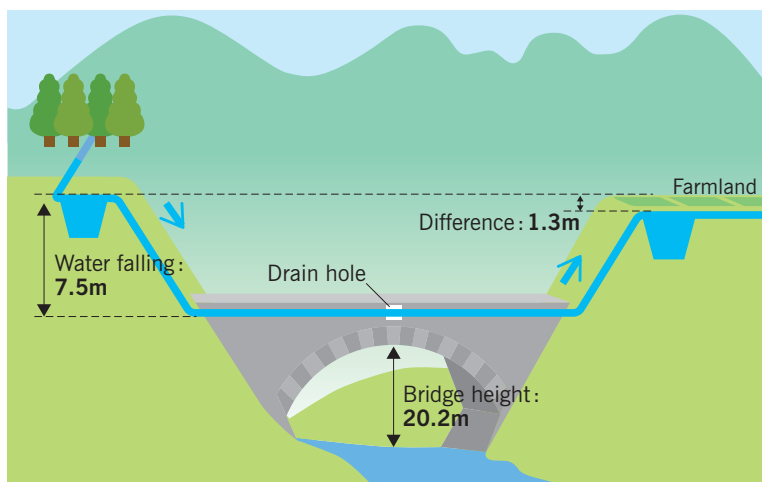
# Traditional Wisdom and Technology Thriving in Modern Life

Japan, where tradition and innovation exist side by side. The wisdom of Japan's ancestors passed down over the years is evident not only in the high level of technology found in structures that supported the lives of people in days past, but also in the state-of-the-art buildings that we see today.



## Bridge for Watering the Plateau

In the mountainous country of Japan, where hills and sloping land abound, advanced technologies have been developed for irrigating farmland. Standing in the town of Yamato, Kumamoto Prefecture, located in the center of Kyushu, the Tsujun Bridge is the largest arched stone aqueduct in Japan, having been completed in 1854. The innovative structure uses pressure differences, based on the inverted siphon principle, to draw water from a hill on one side of the river and push it up to a plateau on the other side, where there is a lack of water. Gaps in the stonework were filled with *shikkui*, a Japanese lime plaster, which is able to withstand high pressure. The bridge piers also use the same solid masonry technique as those used for the stone walls of Kumamoto Castle. Bringing together the best technologies of the day, the waterway was built with a total length of approximately 30km, which supplies enough water to irrigate an area of about 100ha, and has a capacity to fill 15,000m<sup>2</sup> of rice fields in 24 hours. Tsujun Bridge is still used as an irrigation canal, sustaining local agriculture to this day. During the agricultural off-season, water is discharged from either side of the bridge at its center. The powerful, gushing water, created by the efforts and technology of Japan's ancestors, is a monumental sight to behold.





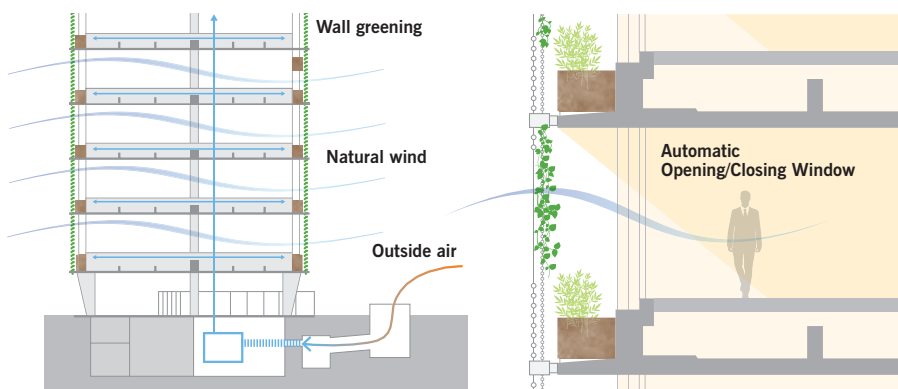


A Japanese traditional house with big, open rooms has certain features that allow for the wind to pass through. Even the *tatami* mats made from natural materials are cool to the touch. Plants growing in front of the window block the hot sunlight, while cooling the surrounding air when water, such as rain, evaporates.

## Device for Capturing the Wind

It has long been known that in Japan, a good house is one that is capable of accommodating the summer heat. It is for that reason that certain methods have been contrived in homes throughout the country to improve ventilation. One major feature of traditional Japanese houses is the fewer number of walls that they have in comparison with Western-built homes, with rooms being separated by *fusuma* and *shoji*, which are sliding doors or screens that can be completely opened. Traditional houses are also built with a veranda, or wide-open corridor at the side of the house, known as an *engawa*, and a large eaves called *hisashi*, which cover the *engawa*. The *hisashi* prevent sunlight from entering the rooms, helping to keep the temperature down. Once you open the *fusuma* and *shoji*, a fresh breeze would flow from the outside throughout the house. Such wisdom from Japan's ancestors is also being utilized in modern Japanese buildings. One building, completed in 2015 in central Tokyo, features a structure for letting in fresh air, and has a natural ventilation system that takes advantage of cutting-edge technology. As a result, the building efficiently captures the natural winds that blow

around outside. In addition, the natural plant awning, similar to those common in old Japanese towns, covers all the surfaces of the building to keep the inside air cool. These systems make the building effective against the heat and in terms of energy saving. In that way, traditional designs and advanced ideas—truly exist alongside each other.



An office building designed by Nikken Sekkei Ltd., Coop Kyosai Plaza, in Shibuya, Tokyo, has been highly regarded for its beautiful wall greening and advanced natural ventilation system. Between the ivy that climbs up the side of the building and the office space inside is a modern-day *engawa* space. The building incorporates windows that open or close automatically depending on the temperature and humidity. Cool air is taken in at night, reducing the temperature of the concrete of the interior floors and ceilings that had been heated up during the daytime. Such is the wisdom and technology contained within.







Upopoy (National Ainu Museum and Park) lies next to Lake Poroto. The beautiful natural surroundings give visitors a firsthand sense of how Ainu life and culture developed in harmony with nature. (image only)

## UPDATE >>>

# Experience the Ainu World, Living in Harmony with Nature

Upopoy, a national center for the learning and promotion of the history and culture of the Ainu, an indigenous people of Japan, opened in Shiraoi, Hokkaido, in July 2020. Named after an Ainu word meaning “singing together in a large group,” Upopoy offers visitors an exciting firsthand encounter with Ainu culture.

**B**lessed by an abundance of natural beauty, the town of Shiraoi is surrounded by mountains, lakes, and the Pacific Ocean, yet lies only a 40-minute drive away from New Chitose Airport, the main gateway to Hokkaido, and a one-hour drive from Sapporo, which is the largest city in the prefecture. The foundations of the town’s history were laid by the Ainu people, and many still live there and are said to make up about one-tenth of its population of 16 thousand. On the shore of Lake Poroto, a short walk from downtown Shiraoi, Upopoy

(National Ainu Museum and Park) has been established as a new facility dedicated to revitalizing and developing Ainu culture.\*

The Ainu, an indigenous people who have long inhabited the northern part of the Japanese archipelago, particularly the island of Hokkaido, have a distinctive language, religion, and culture. Today, the Ainu live in all parts of Japan, and are an invaluable part of its diverse society and culture. Historically making a livelihood by hunting and gathering in the harsh natural environment, which is particularly severe in the

cold winters, the Ainu developed a rich culture of their own that encompasses food, clothing, shelter, arts, and crafts, all predicated on the notion of living in harmony with nature. With modernization, however, that culture has been on the verge of extinction. This



is particularly true of the orally-transmitted Ainu language, which is entirely different from Japanese. Though the sounds are familiar to people living in Hokkaido because some 80% of the names of the island's municipalities come from Ainu, no more than 10 people are said to be able to speak the language today.

The purpose of Upopoy is to serve not only as a venue for visitors to directly experience Ainu history and culture while learning about the Ainu views of the world and nature, but also as a home for the heart and soul of the Ainu people. Conceived as a “symbolic space for ethnic harmony,” Upopoy is an Ainu word meaning “singing together in a large group”—an activity typical of the emotionally expressive Ainu culture. By providing visitors from Japan and elsewhere with the opportunity to experience and appreciate the richness of that culture, Upopoy aims to contribute to its further expansion and revitalization.

Upopoy consists of the National Ainu Museum and the National Ainu Park in the core lakeside area, along with a hilltop Memorial Site.



The *kotan* (traditional Ainu village) contains several reconstructed Ainu houses (*cise*). Visitors can enter the houses, take part in ceremonies, and try on traditional clothing.\*



The Memorial Site honoring the remains of deceased Ainu people.

©The Foundation for Ainu Culture



The Cultural Exchange Hall presents performances of traditional Ainu dance and music.

The Permanent Exhibition Room in the National Ainu Museum is centered around 14 glass cases featuring exhibits representative of Ainu culture.

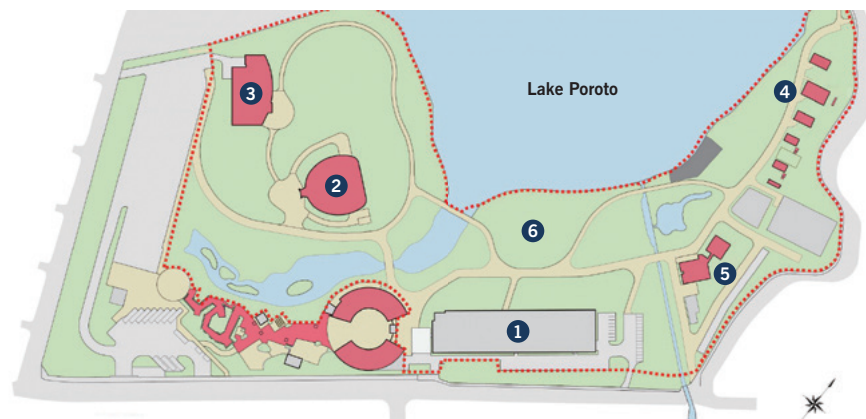


The museum contains some 700 exhibits. Divided into six sections, named Language, Universe, Lives, History, Work, and Exchange, the Permanent Exhibition Room is the ideal place to gain an overview of Ainu history and culture. The park is actually an interactive open-air center comprising a traditional Ainu village (*kotan*) of reconstructed houses (*cise*) and stages for traditional dance. There you can enjoy demonstrations of hunting and fishing tools, performances of traditional songs and dances, and participation in interactive programs of Ainu cuisine and crafts.\*

Descriptive panels, signage in the museum as well as the audio guides are available in up to eight languages, including Ainu, Japanese, English, and Russian. Audio guides

can be listened to via a free-of-charge app, enabling people worldwide to enjoy the exhibits by audio and text at home (for details, go to <https://ainu-upopoy.jp/en/guide/>).

One noteworthy aspect of the National Ainu Museum is the fact that in collaboration with the museum staff and scholars, Ainu people themselves have also selected the exhibits and display methods, and have written the descriptions. Their own participation and involvement in the museum aims to revitalize the Ainu culture through interaction with visitors from all over the world, which should further expand cultural diversity. Owing to its contribution to that process, Upopoy will surely become a symbol of a vibrant, inclusive society. ✿



**1 National Ainu Museum**

Exhibits history and culture of Ainu from their own perspective

**2 Cultural Exchange Hall**

Presents traditional dancing and other performances

**3 Workshop**

Visitors can taste Ainu cuisine and play Ainu musical instruments

**4 Kotan**

Traditional Ainu village

**5 Crafts Studio**

Demonstrations and workshops of wood carving and embroidery

**6 Cikisani Square**

Welcomes visitors with displays of traditional dancing and clothing



# Innovating Paper to Reduce Plastic Waste

New eco-friendly paper materials have been created through passion and time-tested technology. The papers will help people achieve Sustainable Development Goals (SDGs) and lead to reduce plastic waste.

The movement away from plastic has started to accelerate as the pollution of oceans, due to increasing plastic waste, has become a global problem. Given the urgent need to find alternatives, the development of new, environmentally friendly paper materials are attracting attention.

A paper material created from a completely novel concept promoted by a group of Japanese entrepreneurs, is now available: banana paper, made from discarded banana stems. The stems, which would otherwise be thrown away, are purchased from

organic banana farmers in Zambia, Africa, then, processed for their fiber in a local factory, after which they are made into paper products in Japan and England.

Leading the project is EKBERG Satoko. Determined to find a way to generate sustainable employment in an impoverished region of Zambia, she eventually arrived upon the idea of making paper from banana stems, which are normally discarded in large quantities. And since traditional Japanese papermaking has used non-wood sources of pulp from time immemorial, developers

drew the idea from that fund of skills and wisdom. Ekberg also says the cooperation of many other entities has been indispensable, including paper manufacturers, printing companies, and experts on the environment. “By cooperating across institutional boundaries, we have

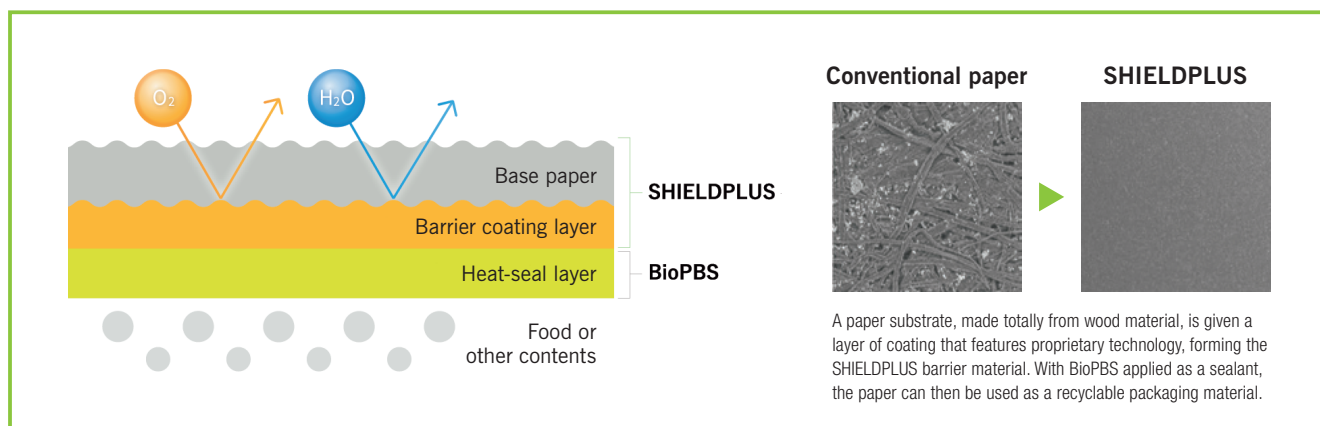
The production of handmade paper has begun at the Zambia factory. Local wild grasses found abundantly in that country are made into a paste that is used to produce handmade banana paper with a warm texture.



EKBERG Satoko (right) explains how the project was started. Maintaining a firm determination to continue moving forward, she is focused on further developing banana paper products.



The production of banana paper creates jobs in impoverished regions, enabling some team members to send their children to college.



created a ‘paper beyond paper’ that will not only protect people’s lives, but also protect forests and wild animals from poaching caused by poverty.”

Having obtained the approval of the World Fair Trade Organization (WFTO), banana paper has been introduced as a packaging material for a global manufacturer of cosmetics products, and is also utilized in various other innovative ways, such as in containers and clothes hangers. As efforts to achieve SDGs inspire new activity at the enterprise level, requests have dramatically increased for the co-development of products.

At the same time, attempts are also moving forward to enhance conventional paper with new capabilities. SHIELDPLUS, a new kind of paper developed by Nippon Paper Industries Co., Ltd., has the property of being impermeable to oxygen, vapor, and odors. In general, high hopes have been placed on paper as a possible replacement for plastic since it is a biodegradable, renewable resource. However, its high permeability makes it difficult to be used as a packaging material for fresh food and similar products. To overcome that problem, Nippon Paper Industries has applied its water-based coating technology—normally used for treating magazine



Expanding beyond its original use as a food-packaging material, SHIELDPLUS is now being introduced into more fields. Because the product is impermeable to odors, Nippon Paper Industries continues to broaden its range of applications.

covers and other special papers—to develop a unique barrier layer over paper, which produced SHIELDPLUS. Its low oxygen transmission rate gives it barrier properties comparable to those of plastic barrier films—now in widely used for wrapping foods, pharmaceuticals, and similar products—making it a truly innovative paper material.

Even when SHIELDPLUS is used as a food package, a thin plastic film is still needed to seal the inside so as to protect the quality of the contents. For that, Nippon Paper Industries, in a new deal, has utilized BioPBS, a biodegradable resin developed by Mitsubishi Chemical Corporation. The two companies have co-developed a new recyclable packaging material using BioPBS as a heat-seal layer. Each component,

made from recyclable materials, is thus biodegradable. Together, they effectively prevent the deterioration of the package’s contents.

Amidst rising consciousness of the need to reduce plastic consumption, a growing number of businesses have introduced SHIELDPLUS packaging materials. With a deluge of inquiries from overseas, Nippon Paper Industries looks forward to developing cooperative projects with a variety of companies, while continuing to explore new possibilities for paper.

Paper materials may offer even more possibilities that are still unseen. We may thereby discover other solutions to global issues through cooperation and the sharing of ideas and technology. ✨

# Becoming One with the Music, She Reaches Out to Audiences' Hearts

Studying abroad was what really ignited OKISAWA Nodoka's desire to pursue a career in music. Now, having earned high acclaim at international competitions, she talks about what is most important about standing on the rostrum, and the best part of getting to "weave sounds" together with an orchestra.



At the Tokyo International Music Competition for Conducting in 2018, Okisawa garnered rave reviews for her direction of a piece by Mendelssohn that had been assigned to all the competitors.

In September 2019, a piece of news spread throughout the world of classical music: OKISAWA Nodoka had won the *Grand Prix de Direction* at the International Competition for Young Conductors of Besançon, known as a major gateway to success for young conductors. As only the second Japanese woman

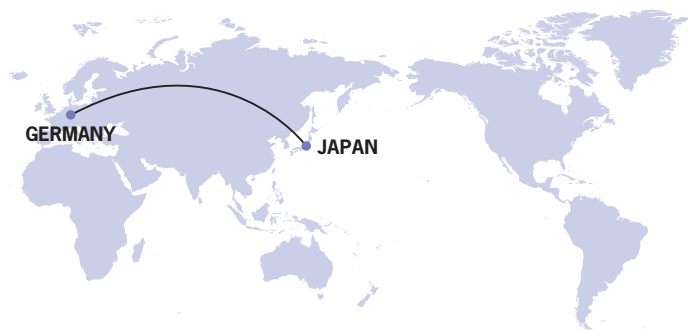
ever to win the prized award, she also had the distinction of winning the special awards for being the "Orchestra's Favorite" and the "Audience's Favorite."

Okisawa grew up in Aomori Prefecture, where she took lessons in the piano, cello and oboe. With that background, she first decided to

pursue a career in conducting while in the winter of her second year of high school, when she was visiting Sydney on a language-learning program.

"It was such an extreme contrast, having left Aomori in mid-winter and arriving in Sydney during the peak of summer. Getting exposed





## OKISAWA Nodoka

A Japanese-born conductor based in Berlin. The winner of the 56th International Competition for Young Conductors of Besançon in 2019 and the 18th Tokyo International Music Competition for Conducting in 2018.

to a wide variety of perspectives prompted me to ask myself anew what I really wanted to do. That was when I decided to pursue a career in music rather than simply making it a hobby. I was good at solfège, which requires an above-average ability to read music, so I thought that conducting would be a good challenge for me.”

From then on, Okisawa pursued her studies with extra drive and determination, entering Tokyo University of the Arts, where she majored in conducting, and where she could develop her talents further while being faced with a variety of challenges. After graduating from the university, she studied at the Hanns Eisler School of Music Berlin. She gained additional experience as an assistant conductor in the Orchestra Ensemble Kanazawa for one and a half years, starting in autumn 2011. There, she received tutelage from numerous maestros, including INOUE Michiyoshi.

She continues, “The most important thing in conducting is

to let go of your negative thoughts and become one with the music. During rehearsal, the orchestra lets you experience unique things that are invisible and unimaginable simply by reading the score. I find the process so interesting: first, you create music by exchanging ideas and working together with the orchestra, and then you share it with audiences around the world.”

In 2018, Okisawa took first prize at the Tokyo International Music Competition for Conducting, the most prestigious competition for aspiring conductors in Asia. In the spring of the following year, she studied under Riccardo Muti at his Italian opera academy in Tokyo.

“From Maestro Muti, I learned the importance of the connection between words and sound in opera. I also learned to ‘be myself’ while standing on the rostrum, and not let my lack of experience scare me.”

Okisawa is currently based in Berlin. While working with various orchestras worldwide, she is also gaining valuable experience as an

assistant to the chief conductor of the Berlin Philharmonic, Kirill Petrenko. In November 2020, she plans to direct a performance in Tokyo of the operetta *The Merry Widow*, the pandemic permitting.

“In addition to opera performances, I would also like to focus my efforts on kids’ concerts and conducting youth orchestras, as I learned so much from participating in them in my own youth.”

In opera, Okisawa says that she is keen to try her hand at directing a work of Verdi’s or Mozart’s, such as *The Marriage of Figaro* or *The Magic Flute*. Music aficionados can only wait with anticipation the music she will weave in the future. ✨



In Leipzig, Germany, Okisawa took part in a master class by the late Kurt Masur, one of the conductors whom she admires and respects the most. Masur died in 2015.



Scene from the award ceremony for the 2019 International Competition for Young Conductors of Besançon. It was the first time in eight years for a Japanese conductor to win the prize.

## Bjorn Heiberg

Born in Canada in 1969, he was raised in Denmark. In his 20s, he came to Japan, and after working as a language teacher and company employee, he gained employment with a knifemaker in Sakai. Responsible for exporting Japanese knives overseas, he has dealt with knives from all over the country. In 2011, he opened Tower Knives in the Shinsekai area of Osaka, specializing in Japanese knives. Having opened a total of three stores in Osaka and Tokyo, he is creating Japanese knife aficionados throughout the world.



GRASSROOTS AMBASSADOR >>> Friends of Japan

# A Canadian Knife-shop Owner Inspires Japanese Craftsmanship

Tower Knives—a specialty shop for Japanese kitchen knives in Osaka—is owned and run by the Canadian Bjorn Heiberg. Through his shop, he not only provides quality products for knife aficionados both inside and outside Japan, but also supports and fosters the craftsman culture of handmade Japanese kitchen knives.



**B**jorn Heiberg, born in Canada, was raised in the wooded countryside of Denmark. Since his early childhood, he has been familiar with using pocketknives and various other tools. His interest in Japan dates back to the 1980s, when he was absorbed in watching a Japanese TV drama series, *Shogun*, and reading the Japanese comic, *Lone Wolf and Cub*. In particular, he was strongly

fascinated by the Japanese swords that the major characters of the comic wielded.

In his 20s, he came to Japan on a working holiday visa, and was quickly charmed by the warmth of the Japanese people, as well as by their cuisine. His holiday turned into something more permanent when he decided to try to introduce a Swiss-made knife sharpener in Japan. On

his first sales call, he visited a knife manufacturer in Sakai, an Osaka city, famous in Japan for the quality of its products handmade by traditional craftsmen. During his sales pitch, he was told, “We don’t need any knife sharpeners, but why don’t you help us export knives?” Taking that suggestion, Heiberg started a new job selling Japanese kitchen knives overseas.





With over 500 kitchen knives on display, the shop shows the broad variety of knives produced by craftsmen throughout Japan.



Craftsmen are periodically invited to the workshop in Heiberg's store to demonstrate their variety of skills, including knife-sharpening. Here, FUJII Keiichi, a traditional craftsman from Sakai, is showing how knives are sharpened.

High-quality Japanese kitchen knives are remarkably popular around the world. However, few retailers have been able to provide customers with in-depth knowledge about the value of the knives and the best ways to maintain them. In addition, having interacted with various craftsmen carrying on generations-old knifemaking traditions, Heiberg noticed something else. “The craftsmen in this field are passionate perfectionists about their handiwork, but the food prepared by their knives is constantly changing. So, they sometimes might need a little guidance to better understand what customers really need.” Someone thus must act as a bridge between the artisans devoted to making high-quality knives and those who actually use the knives in the kitchen. With that in mind, Heiberg left the company where he had been working for nine years, and in 2011 established Tower Knives, a showroom for Japanese-made kitchen knives at the base of Tsutenkaku Tower in Osaka.

The store now offers more than 500 kitchen knives carefully selected from all over Japan. Heiberg and his staff give live demonstrations of chopping vegetables to show visitors how to best use and maintain the knives. “Japan has possessed both high-quality steel and the excellent skills of craftsmen, which has enabled its history of forging the ultra-sharp

blades of samurai swords. When a kitchen knife is produced to that level of perfection, it can slice a food ingredient very smoothly, resulting in a minimal loss of flavor. You can really taste the difference. With a lot of loving care, those kitchen knives become heirlooms that can be handed down for two or three generations. The more people realize that, the more willingly they will accept the cost for better quality,” explains Heiberg.

He has also set up a workshop in the Osaka store, where he periodically holds various events, such as inviting craftsmen to demonstrate their knife-sharpening skills in front of visitors. He says, “Not only are the demonstrations enjoyable for visitors, but they provide the invited craftsmen with opportunities to see how much pleasure their works bring to people. Among the craftsmen I’ve invited, one

had made up his mind to retire, but once he saw that the visitors were pleased with his performance, he changed his mind and decided to accept young apprentices to pass on his skills. Our goal is to support more people in their discovery of the pleasures of Japanese kitchen knives and their learning of the proper handling methods, which, I believe, leads craftsmen to be more proud of the work, resulting in their skills and spirit to be passed on to the new generation.”

By helping to bring awareness to Japanese kitchen knives, their proper usage, and their craftsmanship, Heiberg is also helping to preserve the traditions of the high-quality blade-making culture in Japan. It is his passion for knives that builds a bridge to the next generation of this traditional Japanese culture. ✿



In the main shop, tomatoes and other fresh vegetables are used to show visitors how to handle sharp kitchen knives properly. Food prepared with excellent knives is said to both look and taste better.

“The tower is a well-known landmark, so it’s easy for people to find my store,” explains Heiberg as the main reason for locating his store at the base of Tsutenkaku Tower in Shinsekai, dubbed “The Heart of Osaka.” Similarly, his Tokyo store, opened in 2015, is close to the Tokyo Skytree tower, the tallest structure in Japan.





# Ethiopian Marathon Hero Coaches Youth Athletes

Making people smile wherever he goes, a long-distance running legend from Ethiopia lives and works in a rural Japanese town!

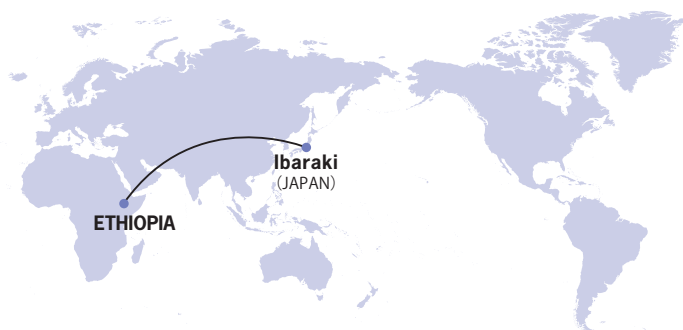
**A**bebe Mekonnen, Ethiopian long-distance running hero, won the Tokyo International Marathon three times, along with various other famous races, including the Beijing Marathon and Boston Marathon. He also competed twice in the Summer Olympics. This past year, he has been playing an active role as a Sports Exchange Advisor (SEA) for the Japan Exchange and Teaching (JET) Programme in Kasama City, Ibaraki Prefecture.

Rich with nature, Kasama is a rural city about a two-hour drive from Tokyo. As Japan's largest producer of chestnuts, it abounds with typical heartwarming Japanese landscapes unchanged since olden days, such as the approach leading up to the well-known Kasama Inari

Shrine. The city is also famous for its style of porcelain known as Kasama-ware. About forty years ago, an Ethiopian potter fascinated with the style of pottery moved to the region, which led the long-term connection with the country that has lasted many years.

After Kasama had been named as the Host Towns for Ethiopian team for the Tokyo 2020 Games, President Derartu Tulu of the Ethiopian

Athletics Federation, made a visit there in March 2019, also with the purpose of coaching students of an athletics class. It was Tulu who advised Mekonnen to work there as an SEA. "She told me that she had been very warmly received by the people of Kasama, which made me think that I'd really like to go there myself," he recalls. Thus, he ended up coming to Kasama in that role. "The natural countryside is



## Abebe Mekonnen

Born in Ethiopia in 1964. Former long-distance and marathon runner, he competed in many World Championships, as well as twice in the Olympics. Three-time winner of the Tokyo International Marathon. Technical director of the Addis Ababa Sport Commission in the capital of Ethiopia.

Mekonnen is pictured with members of the Tomobe Junior High School athletic club in Kasama City. Getting advice directly from a former Olympic athlete clearly boosted the students' motivation.



Ministers and Olympic medalists from Ethiopia shown while visiting Japan for the Kasama Togeinosato Half Marathon held in 2019. Running together with Mekonnen, they established good relationships with the people of Kasama.



Kasama is Japan's largest producer of chestnuts.



Each piece of Kasama-ware is characterized by the artist's individuality. They create pieces that are free from tradition and formalities.

Kasama Inari Shrine, a symbol of the city, is included along the route of the annual Kasama Togeinosato Half Marathon.



beautiful, and the people are warm and friendly. I could relax easily, and soon fell in love with Kasama.”

Mekonnen's role has been to draw the two countries closer together by acting as an intermediary between Ethiopia and Kasama City. His duties also include giving advice and making training plans for junior high school athletic clubs. His daily training plans set out target times down to the very second, leaving colleagues amazed at how precise they are.

“In Ethiopia, it's normal to walk 5km or 6km to school. I encourage students here in Kasama to go to school on foot, and to take walks on the weekend to build basic physical strength. Currently because of the novel coronavirus, I cannot do the programs I originally prepared, but I'm hoping to give as much advice as possible to students through individual online lessons.”

Among Mekonnen's students, some had the opportunity to join the training in Ethiopia. “Even when making the same movements, we only use a part of our bodies, whereas Ethiopian athletes use their whole bodies in a more dynamic manner. We finally came to understand what

Mekonnen-*sensei* means by saying that it's important to train with the whole body,” one of them says.

Having spent less than a year in Japan, Mekonnen still finds it hard to communicate in Japanese, but he says, “I can get by with gestures and laughing. I can talk with Japanese people through the heart. As well as taking part in the town's marathon, Mekonnen participated in the Ibaraki Ekiden (long-distance road relay race) held in December 2019, representing Kasama City as a runner and coach. He is a popular person, who fits in well with the people of the city.

The day after the Ekiden race, an elementary school in the city included Ethiopian food in their school lunch menu to help students become more familiar with Ethiopian culture. Mekonnen, having been invited to the lunch, was so touched that he was brought to tears.

This summer, after finishing his contract as an SEA, Mekonnen will return to Ethiopia. “After going back home, I'll continue to train Ethiopia's next generation, and I also want to be the link that helps build an even stronger relationship between Kasama and Ethiopia.”

This strong, kind Ethiopian hero is bringing the two countries closer together, both through his heart and through sports. ✱

### About the Japan Exchange and Teaching (JET) Programme

The JET Programme began in 1987 with the goal of promoting grassroots international exchange between Japan and other nations, and is now one of the world's largest international exchange programs.

JET participants are placed in every region of Japan and work in one of three positions: assistant language teachers (ALTs), coordinators for international relations (CIRs), or sports exchange advisors (SEAs). In 2019, the JET Programme welcomed 5,761 participants, and currently there are more than 70,000 alumni from 75 countries living in all parts of the world.



The JET Programme official website  
<http://jetprogramme.org/en/>

# We Are *Tomodachi*

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