



PROMOTING GLOBAL HEALTH STARTING FROM NAGASAKI

Left: Professor KANEKO Satoshi (center) specializes in ecological epidemiology and serves as deputy dean of the Institute of Tropical Medicine, Nagasaki University, as well as head of its branch in Kenya and director of its Neglected Tropical Diseases Innovation Center.

Top right: Nagasaki University has a graduate school that provides high-level international education in partnership with the London School of Hygiene and Tropical Medicine, with a focus on fostering human resources who can contribute to global health.

Bottom right: Professor MORITA Koichi, a virology specialist, serves as director of the DEJIMA Infectious Disease Research Alliance at Nagasaki University.

Nagasaki, the site of the G7 Health Ministers' Meeting, is home to a leading university in the field of infectious disease research. What does this university, with its extensive work on global health—especially tropical disease research—aim to achieve in the post-COVID-19 world?

Nagasaki, situated on the island of Kyushu in southwest Japan, will host the G7 Health Ministers' Meeting in May. Given COVID-19's devastating global impact and the reminder it has provided of the horrors

that a pandemic can bring, the deliberations at the meeting will work toward strengthening global health architecture to ensure better health and living standards for all people.

As Japan's only link to the

West from the 17th to mid-19th centuries, Nagasaki was once at the forefront of Japan's fight against the influx of infectious diseases from abroad and it was also where Western medicine was first introduced to the

country. A medical training school established there in 1857 formed the foundations of today's Nagasaki University. Building on more than 160 years of experience in fighting unknown infectious diseases, the university now leads Japan's research into such illnesses.

Professor KANEKO Satoshi, an expert on epidemiology, is deputy dean of the Institute of Tropical Medicine, Nagasaki University, Japan's only research center for such medicine. He said, "Often, developing countries lack properly organized data on their inhabitants and medical treatments. That makes it hard to see which infectious diseases are occurring where, and on what scale." The institute, in collaboration with NEC Corporation and the Kenya Medical Research Institute, has developed the world's first vaccination management system for newborns, equipping it with biometric authentication to reliably validate guardians' voices and newborns' fingerprints. A demonstration test has been underway at a Kenyan hospital since September 2022, with the aim of full-scale introduction into



A gatepost from Nagasaki Medical College, the predecessor of Nagasaki University, remains on campus as a reminder of the city's atomic bombing. Located within the site of an atomic bombing, the university is also committed to world peace.



A vaccination management system for newborns has been equipped with biometric authentication. The photo shows medical staff capturing the fingerprints of a newborn baby in Kenya.



the country by the end of 2023.

Kaneko said, "If we can make the technology's use feasible and more widespread, not only will we be able to manage vaccinations, but we will also be able to obtain big data in the future linked to diverse information such as that related to diseases and the living environment. That could form the basis for various types of research and, I hope, lead to solutions in impoverished areas. We can also use the system—originally designed for developing countries with weak IT infrastructure—in developed countries as well, for instance in times of natural disaster."

Nagasaki University will also work to bolster its research capabilities to prepare for the next pandemic. In April 2022, the university established the DEJIMA Infectious Disease Research Alliance to consolidate the talent and research infrastructure scattered among various institutions on campus. In October of the same year, the Alliance also established the Vaccine Research and Development Center, which has been conducting integrated R&D activities ranging from basic vaccine research to the development of manufacturing

processes. Additionally, the Alliance is gearing up to achieve the goals of the 100 Days Mission—unveiled at the 2021 G7 Summit—to develop vaccines within 100 days after the next pandemic is declared. As Professor MORITA Koichi, the Alliance's director, said, "What's most important is people." Beyond the conventional university system, the institute seeks to recruit talented people from outside the medical field and collaborate with private companies and other universities on R&D. "Today, environmental problems and other compounding factors are also causing infectious diseases to spread. I hope that new ideas will come about not just through the incorporation of classical research methods, but also through the suggestions coming from various other fields," Morita said.

Due to its location, which is particularly open to the world, Nagasaki University has long taken on the threats that infectious diseases pose to humanity. The university will continue to lead infectious disease research, examine the challenges behind such diseases, and work toward better global health using a comprehensive approach. ●