

(Kawasaki Coastal Area Newsletter Vol.25 – p.3-5)

座談会

世界的危機に挑む! コロナで際立った、キングスカイフロントのポテンシャル



左から、片岡一則センター長(公益財団法人川崎市産業振興財団ナノ医療イノベーションセンター)、福田紀彦(川崎市市長)、岡部信彦所長(川崎市健康安全研究所)

Photo: Kazunori Kataoka, Ph.D. (Left), Norihiko Fukuda (Center) and Nobuhiko Okabe, M.D., Ph.D. (Right)

Roundtable Discussion:

Norihiko Fukuda (Mayor of Kawasaki City)

Nobuhiko Okabe, M.D., Ph.D. (Director-General, Kawasaki City Institute for Public Health)

Kazunori Kataoka, Ph.D. (Director-General, Innovation Center of NanoMedicine)

Challenging the global crisis

Potentials of King SkyFront being stood out under the COVID-19 Pandemic

From Heavy Metal Industries to Health & Environment, Evolution of Tonomachi Area

Fukuda Today, I would like to talk about the role of “King SkyFront” from two perspectives– institutions at the site and local government. First, let’s review the development of the coastal areas in Kawasaki. This area was reclaimed by Soichiro Asano, the pioneer entrepreneurs, about 110 years ago, and it has been the driving force of the Japanese economy as the center of the heavy chemical industry for a long time after the war. In the 1990s, the hollowing out of industry led to idle land, however, after that, the Tonomachi area was redeveloped as "King SkyFront" where R & D functions in the fields of health, medical care, welfare, and the environment were accumulated. It has been designated as a National Strategic Special Zone and an International Strategic Zone, and is a base for open innovation that creates new industries from cutting-edge research.

Okabe We have had severe issues about pollution and public health previously but citizens, private firms, and local government worked hand in hand to overcome and strike back clear air and clean rivers. The experience was a great learning indeed, it brings new ideas to tackle public health and environmental issues for our next generation.

Fukuda We continue to develop while creating the most advanced industries of that era by repeating metabolism in any era and contribute to Japan and the world. This is how our coastal area functions as well. I am convinced it will be a place that citizens are proud of.

Kataoka When Mayor Fukuda visited me and talked about the core facilities of the “King SkyFront” project, he said he would like to make it an institution which is our civic pride (pride of our citizens)!. His words deeply touched my heart, so we included the word "Civic Pride" to the vision * of the " Innovation Center of NanoMedicine (iCONM)". (* iCONM aims to become the hub of Keihin-area Health Kombinat; be the civic pride of Kawasaki; continuously create new medical technology realizing human dream; become the world's most innovative research center)

Fukuda The area has experienced a string of dramatic changes in this decade since 2010. There are nearly 70 institutions in the area including governmental and private ones, academia...featured with a great variety. Not only large pharmaceutical companies and life science related venture companies, there are “Kawasaki City Institute for Public Health” for public health, “iCONM” for nano-technology research,

“National Institute of Health Sciences” for evaluation of drug quality and safety and “Central Institute for Experimental Animals (CIEA)” playing an important role in drug discovery, etc., covering a wide range about life science and health.

Kataoka The area is equipped with the best conditions for open innovation, isn't it? There are so many seminars and study groups for cross-organizational exchange. Technologies and ideas often bounded inside individual organizations but such cross-border communication brings innovation. Moreover, a diversity environment where multinational people work also gives an additional boost to this. In iCONM, some research students working as OJT are stimulated by the environment here and expressed interest in starting up their business- various great things are spreading.

Okabe Holding many events and tours for citizens and being open to the outside world are part of the great things about King SkyFront. Particularly, the “Summer Science Event” gives details and features of the area that interested many participants.

Unfortunately, we cannot organize that event this year, but I look forward to seeing future scientists grow out of the children with glittering eyes.

How King SkyFront Tackles COVID-19

Fukuda Now, let's talk about the role of King SkyFront tackling COVID-19. First, let me report about the infection status in Kawasaki City. The first COVID-19 positive patient appeared on 12th March and as of today (remarks- 13th July), we have 382 positive patients and unfortunately 24 deaths. First, we spent effort to make sure we have enough beds for patients and when compared with other cities, we, fortunately, had a better medical system indeed. Thanks to Dr. Okabe for building an infection information sharing system for medical institutions in the city four years ago.

Okabe I built up the system as a preparation during the normal times since if we do it after the pandemic, it may cause a panic.

Additionally, we Kawasaki City Institute for Public Health has regular communication with other medical institutions, public health centers, and City Office for issues like flu and food poisoning, so communication for emergency plans this time were rather smooth.

Fukuda In addition to consolidate the medical system, the local government also paid effort to ensure “disclosure of accurate information about infection” and “provision of details from experts about preventative measures”. Regarding the infection status reports, we proactively opened related information like the residential area of patients and age group within the feasible scope under the privacy policy. Our citizens took as their own matter and understood their roles clearly so it helped a lot to prevent further spread all in all. As for expert opinions, we asked Dr. Okabe to appear on YouTube though he was busy for the COVID-19 infection expert meeting organized by our central government. Kawasaki City Institute for Public Health is in charge of the PCR test in Kawasaki City, and I think Dr. Okabe was also busy there.

Okabe We completed all PCR test preparation well before we had the first patient so our team was not worried. Thanks to the early information release about the virus gene from China, our National Institute of Infectious Diseases then swiftly shared the information with us and we could prepare accordingly. Also, since we have done the test for the passengers of the Diamond Prince cruise in February, we were already experienced before we had the first confirmed case in our city. Our institute moved to King SkyFront in 2013. I am pretty sure we couldn’t have done so much if we were still using our old facilities before moving. In that sense, I am relieved.

Fukuda The “place” is also crucial when we need to perform certain roles indeed. By the way, iCONM, led by Prof. Kataoka, Director General, is currently developing a vaccine for the new coronavirus infection. We have high expectations, but how did you decide to work with it in the first place?

Kataoka At iCONM, based on questionnaires conducted to citizens, the research areas are the three pillars of cancer, dementia, and pandemic infectious disease control.

We didn’t predict such a global infection of COVID-19 but we thought that if vaccine development could prevent illness, it would greatly contribute to health. First, we started with research on cancer vaccines, and this coronavirus infection occurred when the fundamental problems were almost solved. Thus, while applying the findings in the cancer vaccine research, we decided to jointly develop a new coronavirus vaccine based on the mRNA with our old partner, Tokyo Metropolitan Institute of Medical Science. We are now on the stage of animal testing.

Okabe Genetic vaccine is totally different from conventional ones like those for tetanus and measles, so being cautious about ensuring safety, approval has not been advanced in Japan until now. However, corona countermeasures are an urgent issue, this will accelerate the approval process. As it is today, science can turn a pinch into an opportunity when faced with a pinch of mankind.

Kataoka True. As the National Institute of Health Sciences, the regulations control (evaluation of quality, effectiveness, and safety) is also located at King SkyFront, we are hoping to offer vaccine as soon as possible under the close cooperation. PeptiDream Inc., a venture company also located in King SkyFront, is working on the treatment of new coronavirus, too. High expectations are high for that as well.

Fukuda Kawasaki has the DNA that has changed the pinch of pollution issue into an opportunity to transform into an environmental industry. As for the current hard time, it's definitely chance for everyone in King SkyFront to work together for further development of science. I feel so thankful for the supports from our citizens in the past, and I hope we are all ready for a long-term battle.

For Being the Area with the cutting-edge Technologies of the world in the future 30 years from now even

Fukuda Finally, let's talk about the future image of King SkyFront. Our local government is pleased to work with the institutions in the areas to achieve our common goals in the future. Let me know what you think.

Okabe I have worked in National Institute of Infectious Diseases before and I am now working for the infection preventative measures for Kawasaki City. The experience working in a national organization and a local, prefectural one made me visualize the large gap between the central government and the frontline. There should be different policies for cities and rural areas and thus, individual local governments need to judge and act accurately. Kawasaki City which owns King SkyFront, an open innovation base should take the initiative and make effort to be the model for other local governments. Hence, it is vitally important to nurture capable persons who can judge flexibly. That's the key to the future.

Kataoka I would like to make three suggestions. First, we need incubation centers at King SkyFront. Currently, many venture companies are accumulated, but in order to get the business properly on track and make it an industry, we need specialists to support non-research areas such as law, regulation, and management know-how.

Fukuda So, it means that such specialists will provide know-how within King Sky Front, doesn't it?

Kataoka Exactly. The second is to strengthen the bonding with clinical research institutes. In order to apply the new technologies developed, we need a big pipe linking us to the clinical field. Fortunately, right opposite to King SkyFront and on another side of the Tama River is "Haneda Innovation City". I heard that there would be a clinical medical facility with advanced technologies soon. We want to go beyond the prefectural border, let the opposite side of the river experience our skills, and ultimately work together. And, the third one is also linked to "civic pride", I am thinking if we can build a theme park about health- with rides like virtual illustration inside our human body, attack from cancer, and games to defeat diseases and obtain a nice health report. It works to draw more attention to our daily health in all generation groups. Actually, iCONM has a vision to give on-time diagnosis on necessary body part using nano-devices in high molecular size as "In-body hospitals®". I would like to let the public know through theme parks that such a world like science fiction will be realized in the foreseeable future.

Okabe Science is always full of dreams and hopes.

Fukuda Theme park and In-body hospitals® both sound great. Aiming at the sustainable development of our coastal area as the core of "creation of a powerful industrial city", "Vision for Coastal Area" was designed in March 2018. Very different from the typical mode of thinking in which focus was on what to improve for a better future, a "back casting" way was adopted- we set an ideal future image and plan to get there. We are witnessing positive results gradually two years after that. Aiming at further innovative creation linked with the institutions at the site, King SkyFront newly adopted a cluster management system in April this year. When our local government officers and the institutes at the site can spend good times and bad times together, we are able to move on with the same expectations. It is essential for planners to understand what's actually happening at the front line.

We would like to think together with all institutes at the site and act together with them so as to keep King SkyFront improving as an international cutting-edge technology area. Let's make our dreams come true together!

(Facility information)

Innovation Center of NanoMedicine (iCONM)

Appointed as Core Hub of International Science Innovation of Ministry of Education, Culture, Sports, Science, and Technology (MEXT), the core research institution of the King SkyFront project co-organized by Kawasaki City and Kawasaki Institute of Industrial Promotion. Established in 2015. Aiming at practical research on revolutionary topics like treatment, diagnosis of difficult cancers and Alzheimer's disease based on the open, innovative cooperation between academia, industry, and government.

Kawasaki City Institute for Public Health

Implement a wide range of experiments and surveys about public health based on the key phrase "protecting citizens' health". Collaboration with other research institutes, it promotes globally universal research divisions based on public hygiene. Moved to King SkyFront in 2013 and changed the name from "Kawasaki City Research Institute for Hygiene" to the current one.