Contribution by

Japan

to the CSTD call for information sharing on initiatives against COVID-19
Research and Development Programs related to COVID-19 by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

I. Development of medicine and rapid genetic testing system

● Medicine

The Institute of Medical Science of The University of Tokyo identified an existing drug, Nafamostat (brand name: Fusan), which was developed in Japan as treatments for pancreatitis and some other diseases, as expected to prevent novel coronavirus infection (COVID-19) at its early stage. This research resulted in launching clinical trials for treating COVID-19.

● Rapid genetic testing system

✓ Loop-Mediated Isothermal Amplification (LAMP):

Nagasaki University and Canon Medical Systems jointly developed a rapid genetic testing system based on the technique using LAMP method, which can detect the COVID-19 in 40 minutes. This system has already been used for administrative inspections and covered by insurance.

✓ Smart Amplification Process (SmartAmp):

The rapid genetic testing technique based on the SmartAmp method can provide a major time-saving compared to PCR. The effectiveness of this method has been validated through the joint research of the Kanagawa Prefectural Institute of Public Health and RIKEN. As a result, this system has already been used for administrative inspections and covered by insurance. Work is ongoing to further reduce the amount of time required.

II. Utilize Supercomputers for research on COVID-19

The supercomputer Fugaku, which is currently being installed in Kobe, Japan under a RIKEN-led project, will be put to use to help combat the COVID-19 pandemic to the maximum extent possible, by giving priority to research selected by MEXT. Currently, five projects are being conducted by the scientists from RIKEN and other research institutions. Other computing resources in other universities and national research institutes are also encouraged to be used for this purpose as priority.

III. New funding schemes for strengthening the nexus between Humanities/Social Sciences and Natural Sciences
The following schemes aim at developing and implementing public health policy proposals based on scientific evidences by utilising knowledge of Humanities and Social Sciences, such as law, ethics, sociopsychology and behavioral economics or integrating this knowledge with information science which analyze citizen/consumer’s behavior in the current social circumstances caused by COVID-19.

✓ Research Institute of Science and Technology for Society (RISTEX) of Japan Science and Technology Agency (JST) opened FY2020 call for “Responsible Innovation with Conscience and Agility (RInCA)” program, which have a special quota for research relevant to COVID-19.

✓ JST also launched a call for “JST-Mirai Program” under the theme of “Making full use of AI and simulation technologies across different fields for a human-centered society.”

IV. Opportunities for non-medical international collaborative research related to the prevention and mitigation of effects of the COVID-19 pandemic

JST has been implementing a funding mechanism for international collaborative research on the theme of COVID-19 and current pandemic as part of its J-RAPID program. In this mechanism, funding is envisaged for researchers in Japan who are currently in collaboration with or anticipate collaboration with researchers abroad who are funded or to be funded by eligible foreign funding agencies including through the RAPID program of the National Science Foundation (NSF) of the United States. This mechanism not only supports research directly applicable to mitigating the ongoing COVID-19 outbreak, but also welcomes non-medical research related to the prevention and mitigation of effects of the COVID-19 pandemic.