JST Press Release #1482

January 22, 2021

Japan Science and Technology Agency
5-3, Yonbancho, Chiyoda-ku, Tokyo

JST is to fund five research projects for the e-ASIA Joint Research Program on "Countermeasures for COVID-19 Urgent Joint Call"

The Japan Science and Technology Agency (JST) decided to start new projects within the framework of the e-ASIA Joint Research Program [*1] (Appendix 1).

JST and four funding agencies from three countries (Appendix 2) jointly held the "Countermeasures for COVID-19 Urgent Joint Call" for non-medical research.

A total of 12 proposals were submitted in response to the joint call. Based on an expert evaluation conducted in each country (Appendix 3), JST and the other funding agencies jointly decided to adopt five projects.

The scheduled research period is until March 2022.

*1) e-ASIA Joint Research Program (e-ASIA JRP)

Through the acceleration of science and technology research exchange and collaboration in the East Asian region, the e-ASIA Joint Research Program (e-ASIA JRP) aims to strengthen research and development capabilities towards resolution of shared challenges across the region, including those associated with materials, alternative energy, agriculture, health research, disaster risk reduction and management, advanced interdisciplinary research towards innovation, and the environment.

As part of that objective, e-ASIA JRP supports collaborative research implemented among three or more of its member countries. Through the implementation of joint research among participating countries in agreed fields of research, it is the goal of e-ASIA JRP to contribute to economic and human resource development, as well as the resolution of various challenges in the region.

Due to the urgency of this call to address the COVID-19 pandemic, a project consortium with only two countries was considered if the project was scientifically well-justified and

aligned with the e-ASIA JRP objectives of promoting innovation and development in the East Asia region.

URL: https://www.the-easia.org/jrp/

Appendix 1: Abstracts of the new projects

Appendix 2: The funding agencies which joined the call

Appendix 3: Experts for evaluation (JST)

Annex: Abstract of the joint call for proposals

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Appendix 1: Abstracts of the new projects

Project Title	Principal Investigators	Position and Institution	Abstract of Research Project
Comprehensive investigation of SARS-CoV-2-like coronavirus infection in horseshoe bats (a natural host of SARS-CoV-2) and its effect on bat immunity and behavior (SARS-CoV-2 in natural host)	SATO Kei (Japan)	Associate Professor, Institute of Medical Science, The University of Tokyo	This interdisciplinary collaborative research aims to reveal the effect of the infection of SARS-like coronaviruses (SL-CoVs) on the immunity and behavior of wild horseshoe bats, a putative natural host of SARS-CoV-2. Specifically, the Viet Nam research team captures wild bats and assess SL-CoV infection. The Japanese research team analyzes the diversity of SL-CoVs in wild bats in Vietnam. Additionally, the Japanese research team experimentally investigates the dynamics of SL-CoV infection by virological and bioinformatic analyses. The results from the Japanese research team will be fed back to the Vietnam team and combined with the findings of the distribution of SL-CoV-positive bats and their ecology. Through the collaborative and complementary research among these two countries, this research is expected to reveal the dynamics of SL-CoV infection in wild bats and estimate the potential risk of viral spillover to humans.
	Thong Vu Dinh (Viet Nam)	Associate Professor, Institute of Ecology and Biological Resources, Viet Nam Academy of Science and Technology (VAST)	

Underlined: Lead Principal Investigator

Project Title	Principal Investigators	Position and Institution	Abstract of Research Project
Development of a simulation model for prediction of the next outbreak of bat-derived coronavirus infection in humans (ROBIN)	OMATSU Tsutomu (Japan)	Associate Professor, Department of Agriculture, Tokyo University of Agriculture and Technology	This collaborative research aims to develop a simulation model that predicts the dynamics of coronavirus in the bat group, which is necessary for predicting the occurrence of the next bat-derived infection. Specifically, the Japanese research team will develop a viral dynamics model among selected bat populations, collect vegetation and meteorological data necessary for the development, and conduct epidemiological surveys of bats; the Philippine research team will provide bat ecological information and conduct epidemiological surveys of bats in the Philippines; the Vietnamese research team will conduct epidemiological surveys of bats in Vietnam. This collaborative and complementary research among 3 countries will contribute to predicting future outbreaks of bat-derived infectious diseases and introducing rapid countermeasures against them.
	Phillip Alviola (Philippines)	Associate Professor, Institute of Biological Sciences, University of Philippines, Los Banos	
	Ngan Pham (Viet Nam)	Associate Professor, Faculty of Veterinary Medical, Vietnam National University of Agriculture	

Underlined: Lead Principal Investigator

Project Title	Principal Investigators	Position and Institution	Abstract of Research Project
Mathematical modelling of heterogeneous contact and movement patterns for preventing COVID-19 (MAC-19)	NISHIURA Hiroshi (Japan)	Professor, Department of Health and Environmental Sciences, Graduate School of Medicine, Kyoto University	This cooperative research project aims to achieve implementation of mathematical models by parameterizing heterogeneous contact via social contact surveys and quantifying movement patterns of humans using ICT techniques. The Japanese team consists of experts that have experienced multitudes of time-series data analysis of infectious diseases, accounting for dependence of the risk of infection, employing non-linear models. The Thai team is proud of their capacity for spatial modeling, having worked on the application of a geographic information system and malaria epidemiology using ICT techniques. Synergizing areas of expertise from Thailand and Japan, this project will offer modelling methods to optimize interventions against the novel coronavirus (COVID-19).
	Saranath Lawpoolsri (Thailand)	Associate Professor, Faculty of Tropical Medicine, Mahidol University	

Underlined: Lead Principal Investigator

Project Title	Principal Investigators	Position and Institution	Abstract of Research Project
Multidisciplinary collaborative research for developing a COVID-19 policy risk index (COV19PRI) to overcome the impact of the COVID-19 pandemic in three Asian megacities	MUKAIDA Akira (Japan)	General Manager, Solution Service Dpt.II, Remote Sensing Technology Center of Japan	This research aims to first develop a multicriteria risk index considering multiple factors affecting the spread of COVID-19 to provide policymakers with insights for a timely pandemic response and then to use the developed index to evaluate government responses in three Asian megacities of Tokyo, Bangkok, and Manila. The Japanese team provides policy analysis and geospatial insights to the project using promising remote sensing data and technologies. The Filipino team supports the establishment of behavioral-linked indicators as one of the multiple factors that would pose risk from epidemics such as that of COVID-19. One Thai team aims to assess the possible association of atmospheric components such as PM 2.5 and COVID records. The other Thai team will carry out research using data from social media.
	Marlon Era (Philippines)	Associate Professor, Behavioral Sciences Department College of Liberal Arts, De La Salle University	
	Voranop Viyakarn (Thailand)	Head of Department of Marine Science, Faculty of Science, Chulalongkorn University	

Underlined: Lead Principal Investigator

Project Title	Principal Investigators	Position and Institution	Abstract of Research Project
Development of pre-illness ("MiByo") diagnosis method for infectious diseases by AI proteomics. (MiByo AI proteomics)	HAYASHI Nobuhiro (Japan)	Associate Professor, School of Life Science and Technology, Tokyo Institute of Technology	This collaborative research aims to develop a method to detect infectious diseases including COVID-19 when in pre-illness ("MiByo") based on AI processing technology for proteomics data images obtained using high-performance two-dimensional electrophoresis technology developed in Japan (Tokyo Institute of Technology). Specifically, the Japanese team will develop a method for detecting the pre-illness state of infectious diseases, and basic data from Japanese subjects will be collected. The Thai team and the Philippines team will acquire data on Thais and Filipinos with the technical cooperation of Japan. In addition, by comparing and analyzing the data of the three countries, we will investigate the differences in biological reactions (strength of resistance, etc.) to infectious diseases by ethnic group. Each country will elucidate the causes of infectious disease morbidity that differ from country to country by formulating and testing hypotheses regarding the genetic background and environmental factors related to the susceptibility and severity of infectious diseases in each country. Through collaborative and complementary research among 3 countries, we expect a paradigm shift in health self-management and a new normal for our lives.
	Neil Andrew Bascos (Philippines)	Assistant Professor, Philippine Genome Center, University of the Philippines	
	Sittiruk Roytraku (Thailand)	Researcher, National Center for Genetic Engineering and Biotechnology, Thailand National Science and Technology Development Agency （NSTDA）	

Underlined: Lead Principal Investigator

Appendix 2: The funding agencies which joined the call

Country Name	Funding Agency Name
Japan	Japan Science and Technology Agency (JST)
Philippines	Department of Science and Technology (DOST)
Thailand	National Research Council of Thailand (NRCT)
Thailand	Agricultural Research Development Agency (ARDA)
Vietnam	Ministry of Science and Technology (MOST)

Department of Science and Technology (DOST), Philippines

URL: http://pcieerd.dost.gov.ph/

http://www.pcaarrd.dost.gov.ph/

National Research Council of Thailand (NRCT), Thailand

URL: http://en.nrct.go.th/en/home.aspx

Agricultural Research Development Agency (ARDA), Thailand

URL: http://www.arda.or.th/en/

Ministry of Science and Technology (MOST), Vietnam

URL: https://www.most.gov.vn/en/Pages/home.aspx

Appendix 3: Experts for evaluation (JST)

Member Name	Position and Institution	Note
AIZAWA Masuo	Professor Emeritus, Tokyo Institute of Technology	Program Officer
KOHARA Satoshi	CEO, Ecotribute., Inc.	Advisor
TANAKA Yuzuru	Professor Emeritus, Hokkaido University	Advisor
DOI Miwako	Auditor, National Institute of Information and Communications Technology	Advisor
FUJINAGA Yukako	Professor, Graduate School of Medical Sciences, Kanazawa University	Advisor
YOKOSAWA Masayuki	Professor, Faculty of Human Sciences, Waseda University	Advisor

Annex: Abstract of the joint call for proposals

(1) Proposal field application requirements:

In addition to the Japanese team, the project consortium must include members from a minimum of two different countries listed as participating in the call. But due to the urgency of this call to address the COVID-19 pandemic, a project consortium with only two countries could be considered if the project is scientifically well-justified and is aligned with the e-ASIA JRP objectives of promoting innovation and development in the East Asia region.

(2) Applicant eligibility (Japan side):

Any independent researcher personally affiliated with (and actively conducting research at) a domestic Japanese research institution, regardless of nationality, is eligible to apply.

(3) Research period:

The scheduled research period is until March 2022.

(4) Amount of funding (JST):

Up to 10 million yen from JST to the researchers (Japan-based team) per project, inclusive of overhead costs (30 percent of direct costs).

(5) Evaluation method:

Based on evaluation by experts from the countries which held the joint call, including Japan, and discussion by JST and other funding agencies.

(6) Evaluation criteria (JST):

The following were among the general criteria considered in the evaluation process:

   1) Conformity with e-ASIA JRP aims such as regional relevance and designated research fields;

   2) Capability of the research leaders and relevance of their current research activities;

   3) Effectiveness and synergistic mutual benefit of the joint research activities;

   4) Validity of the research plan;

   5) Effectiveness and continuity of exchange;

   6) Validity of the exchange plan;

   7) Not in the medical field.