

--Public Announcement--

The e-ASIA Joint Research Program (e-ASIA JRP)
The Review Results of the 13th Call for Proposals
In the Field of

Agriculture

It is our great pleasure to publicly announce the selected projects from the e-ASIA Joint Research Program (e-ASIA JRP*¹) 13th Call for Proposals in the field of Agriculture.

This call received a total of 18 proposals, reflecting significant interest and collaboration in this vital area. Following a thorough evaluation process, which included joint reviews conducted by six funding organizations from six participating countries*², the following three collaborative projects have been selected for support. These projects have been approved by the e-ASIA JRP Board and will receive funding for a duration of three years.

Project Title:

“Development of Diagnostics and Therapeutics to Mitigate the Impacts of Climate Change on Shrimp Health and Growth Dynamics”

to be conducted jointly by:

Japan	Keiichiro Koiwai <i>Assistant Professor,</i> <i>Tokyo University of Marine Science and Technology</i>
Thailand	Kunlaya Somboonwiwat <i>Associate Professor, Chulalongkorn University</i>
Philippines	Mary Beth Maningas <i>Professor, University of Santo Tomas</i>

Farmed shrimp, one of the world’s fastest-growing food product, face constant threats from viral diseases. Early virus detection is crucial for controlling pathogens in shrimp lacking adaptive immunity. However, virus genome mutations may lead incomplete dataset, resulting in limitation of use it for the effective therapeutic development. This study employs single-virus analysis to explore regional virus lineage variations. We investigate virus proliferation in shrimp, ectothermic animals, analyzing factors like water

temperature, virus strains, and host immunity. Additionally, targeting virulence gene of virus, we will design new treatment to combat the virus. Our emphasis lies in predicting climate change impacts on virus diseases in diverse regions.

Project Title:

“Speeding up Rice Mutation Breeding to Ensure Food Security Under Climate Change Using Remote Sensing and Interpretable AI”

to be conducted jointly by:

Japan	Keisuke Katsura <i>Associate Professor, Tokyo University of Agriculture and Technology</i>
Thailand	Prakobkit Dangthaisong <i>Agricultural Research Officer, Senior Professional Level, Khlong Luang Rice Research Center</i>
Indonesia	Winda Puspitasari <i>Researcher, National Research and Innovation Agency (BRIN)</i>

This research aims to accelerate mutation breeding for sustainable crop production under climate change by development of innovative phenotyping technology. The Japanese team will develop interpretable AI models to reveal yield limiting factors and identify responsible genes for mutant phenotype by whole genome sequence analysis, while the Thailand and Indonesia teams will conduct rice field trials under various stress conditions. Through joint research by the three teams, it is expected to contribute to robust agricultural production under climate change.

Project Title:

“CSA for Small Paddy Farmers to Reduce Methane Emissions and to Increase Yields in Terraced Paddy Areas”

to be conducted jointly by:

Japan	Tasuku Kato <i>Professor, Tokyo University of Agriculture and Technology</i>
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Indonesia **I Made Anom Sutrisna Wijaya**
Professor, Udayana University

Thailand **Surat Bualert**
Assistant Professor, Kasetsart University

This cooperative research project aims to introduce climate-smart agriculture (CSA) by utilizing ICT to optimize yield improvement, water use efficiency, and methane gas emissions reduction. It will also employ remote sensing and automated algorithm analysis. The results will be shared with the farmers, and climate change adaptation practices will be proposed and disseminated. The project is expected to establish sustainable paddy field management, involve other innovative agricultural companies, provide data and analysis based on remote sensing data.

***1 The 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 environment. As part of that objective, the e-ASIA JRP intends to support the multilateral collaborative research projects, which must consist of three or more countries.

e-ASIA JRP's Homepage: <http://www.the-easia.org/jrp/>

***2 The List of Six Participating Organizations**

In the 13th Joint Call for Proposals in the Field of Alternative Energy:

- Cambodia: Ministry of Industry, Science, Technology and Innovation (MISTI)
<https://www.misti.gov.kh/en/>
- Indonesia: National Research and Innovation Agency (BRIN)
<https://brin.go.id/>
- Japan: Japan Science and Technology Agency (JST)
<https://www.jst.go.jp/EN/>

- Myanmar: Ministry of Science and Technology (MOST)
<https://myanmar.gov.mm/ministry-of-science-and-technology>
 - Philippines: Department of Science and Technology (DOST-PCAARRD)
<https://www.pcaarrd.dost.gov.ph/>
 - Thailand: National Research Council of Thailand (NRCT)
<https://deven.nrct.go.th/home>
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Contact:



YUKIO KEMMOCHI, PhD (Mr.)

Address: e-ASIA JRP Secretariat/Japan Science and Technology Agency
Room 218 Innovation Cluster1 Building (INC1)
111 Thailand Science Park, Phahonyothin Road
Khlung Nueng, Khlung Luang, Pathum Thani 12120 THAILAND

Tel: +66-2-564-7713

E-mail: easia_secretariat@jst.go.jp