

SEPTEMBER

2025



e-ASIA JRP

The e-ASIA Joint Research Program

13th ANNUAL ACTIVITY REPORT

*Summary of the 13th annual activities from
September 2024 to August 2025*



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Basic Information

This yearly report summarizes the activities of the e-ASIA Joint Research Program during the period from the 13th Annual Board Meeting on September 12, 2024 to August 31, 2025.

Revision Edition:

This report is revised on September 22, 2025, according to approval in the Voting Session in the 14th Annual Board Meeting on September 11, 2025.

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1. Program Administration

1.1 The 13th Annual Board Meeting

- 1.1.1 The 13th Annual Board Meeting was held in a hybrid format on September 11–12, 2024, both virtually via the Zoom platform and onsite at the Grand Plaza Hanoi Hotel in Hanoi, Vietnam. The meeting was moderated by Ms. Emi Kaneko, Secretary General, and Dr. Yukio Kemmochi, e-ASIA Special Program Coordinator, in collaboration with Ms. Lê Thị Việt Lâm, Deputy Director General of the Ministry of Science and Technology, Vietnam. Board Members and representatives of the e-ASIA Joint Research Program participated, including delegates from 17 out of 25 Member Organizations across 13 of the 14 member countries.
- 1.1.2 During the meeting, the Board reviewed and discussed various improvements in program management and operations. Key topics included enhancing international collaboration in the application process, progress on the impact assessment initiative, and refinement of the eligibility criteria and requirements for calls for applications.
- 1.1.3 The Secretariat presented the proposed schedule for the 14th Call for Proposals, which was subsequently approved by the Board during the Voting Session held on September 12, 2024.

Events	Date
Board's Decision on Next Call Topics	September 12, 2024
Submission of Letter of Intent from MOs	Mid-November 2024
Launch Call for Proposals	December 16, 2024
Closing of Call for Proposals	March 31, 2025
Eligibility Check and National Review by MOs	April – August 2025
Joint Review Meeting and Board Meeting	10 September 2025
Announcement to Applicants	November or December 2025
Start Funding (*Depending on each MO's policy)	January 2026*

- 1.1.4 Reports were presented from three Call Development Workshop sessions held on September 10, 2024—one day prior to the Annual Board Meeting. The workshops covered the following thematic areas: Health (Infectious Diseases and Immunology), Alternative Energy, and Disaster Risk Reduction and Management. Following the presentations, the Board approved the proposal for Member Organizations to further explore these potential call topics, with AMED, DOST-PCIEERD, and JST serving as the Main Member Organization (MMO) for each respective area.

1.2 The 42nd ad hoc Board Meeting

- 1.2.1 The 42nd Ad Hoc Board Meeting was conducted via email on October 7, 2024.

- 1.2.2 As of October 16, 2024, the following matters were approved during the 42nd Ad Hoc Board Meeting:

- 1.2.2.1 **Draft Minutes of the 13th Annual Board Meeting:** The minutes were approved with two amendments suggested by NHMRC, Australia (Amendment 1), and MEXT, Japan (Amendment 2).


- 1.2.2.2 **On-hold Candidate Proposals for the 13th Call:** Proposals HE1302, AG1302, and AE1314 were approved for selection without any objections raised.

- 1.2.2.3 **Formal Participation of the National Science Foundation of China (NSFC):** NSFC was officially approved as a Member Organization of e-ASIA JRP, with no objections noted.

2. Member Organizations and Guest Partner



2.1 Current Member Organizations

- 2.1.1 The list of the current 27 Member Organizations from 15 countries, along with their Board Members and representatives, is presented in alphabetical order by country as of September 2025, as follows:

No	Country		Organization	Board Member
1		Australia	National Health and Medical Research Council (NHMRC)	Dr. Nicholas Johnson <i>Executive Director</i>

No	Country		Organization	Board Member
2		Cambodia	Ministry of Industry, Science Technology and Innovation (MISTI)	Dr. Socheat Keo <i>Director General</i>
3		Cambodia	Ministry of Health (MOH)	Dr. Kheng Sim <i>Deputy-Director</i>
4		China	National Science Foundation of China (NSFC)	Dr. Yingjie Fan <i>Director-General</i>
5		Indonesia	Ministry of Education, Culture, Research and Technology (DIKBUDRISTEK)	Professor M. Faiz Syuaib <i>Director of Research, Technology, and Community Services</i>
6		Indonesia	National Research and Innovation Agency (BRIN)	Professor Agus Haryono <i>Deputy Chairman for Facilitation of Research and Innovation</i>
7		Japan	Ministry of Education, Culture, Sports, Science and Technology (MEXT)	Mr. Shinsuke Okada <i>Director for International Cooperation (Representative)</i>
8		Japan	Japan Science and Technology Agency (JST) (as the agent of MEXT)	Dr. Kazuhito Hashimoto <i>President</i>
9		Japan	Japan Agency of Medical Research and Development (AMED)	Mr. Yukihiro Hisanaga <i>Director, Department of International Strategy</i>
10		Lao PDR	Ministry of Health (MOH)	Dr. Rattanaxay Phetsouvanh <i>Director General of the Department of Communicable Diseases Control</i>
11		Lao PDR	Ministry of Education and Sports (MOES)	Mr. Southiphong Vongxaiya <i>Director of Research and Development Management Division</i>
12		Malaysia	Ministry of Science, Technology Innovation (MOSTI)	Dr. Balamurugan A/L Nallamuthu <i>Undersecretary of International Division</i>
13		Malaysia	Academy of Sciences Malaysia (ASM) (as the agent of MOSTI)	Ms. Kausaalya Nagaraja <i>Analyst, Malaysia Science Endowment (MSE) (Representative)</i>
14		Myanmar	Ministry of Science and Technology (MOST)	Dr. Phyu Phyu Win <i>Director General</i>
15		New Zealand	Health Research Council (HRC)	Professor Sunny Collings <i>Chief Executive</i>

No	Country		Organization	Board Member
16		New Zealand	Ministry of Business, Innovation and Employment (MBIE)	Mr. Hugo Bussell <i>Manager, International Science Partnerships</i>
17		The Philippines	<p>Department of Science and Technology (DOST) joined by the following DOST Councils</p> <p>1) <i>Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD)</i></p> <p>2) <i>Philippine Council for Health Research and Development (PCHRD)</i></p> <p>3) <i>Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERD)</i></p>	Dr. Leah J. Buendia <i>Undersecretary for Research and Development</i>
18		Russian Federation	Russian Centre for Science Information (RCSI) (former Russian Foundation for Basic Research)	Mr. Alexander Usoltsev <i>Head of International Relations</i>
19		Russian Federation	Russian Science Foundation (RSF)	Mr. Andrey Blinov <i>Deputy Director General</i>
20		Singapore	Agency for Science, Technology and Research (A*STAR)	Professor Andy Hor <i>Deputy Chief Executive (Research)</i>
21		Thailand	Agriculture Research Development Agency (ARDA)	Ms. Kunvara Chotiphansophon <i>Deputy Director</i>
22		Thailand	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)	Professor Sompong Klaynongsruang <i>Director</i>
23		Thailand	Thailand National Science and Technology Development Agency (NSTDA)	Dr. Uracha Ruktanonchai <i>Executive Vice President</i>
24		Thailand	National Research Council of Thailand (NRCT)	Dr. Wiparat De-ong <i>Executive Director</i>
25		Thailand	Thailand Science Research and Innovation (TSRI)	Professor Vissanu Meeyu <i>Vice President</i>

No	Country		Organization	Board Member
26		United States of America	National Institute of Allergy and Infectious Diseases (NIAID)	Ms. Joyelle Kalei Dominique <i>Director</i>
27		Vietnam	Ministry of Science and Technology (MOST)	Ms. Le Thi Viet Lam <i>Deputy Director General</i>

2.2 Guest Partner Organization

2.2.1 The National Science Foundation (NSF) of Sri Lanka has been a Guest Partner organization in the Program since October 2017.

3. Joint Calls for Proposals

3.1 The 13th Joint Calls for Proposals

Field of Cooperation in Agriculture

3.1.1 The 13th Joint Call for Proposals in the field of “**Agriculture**” was open from December 15, 2023, to March 29, 2024. Out of 18 proposals submitted, the Board approved the following three projects for support:

Project 1: “*Development of Diagnostics and Therapeutics to Mitigate the Impacts of Climate Change on Shrimp Health and Growth Dynamics*”

Project Investigator & Affiliation:

Country	Project Investigators
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>

Funding Modality:

Country	Funding Agency	Funding Modality
Japan	Japan Science and Technology Agency (JST)	New Fund
Thailand	National Research Council of Thailand (NRCT)	New Fund
Philippines	Department of Science and Technology (DOST-PCAARRD)	New Fund

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

Project Investigator & Affiliation:

Country	Project Investigators
Japan	Keisuke Katsura Associate Professor, Tokyo University of Agriculture and Technology
Thailand	Prakobkit Dangthaisong Agricultural Research Officer, Senior Professional Level, Khleng Luang Rice Research Center
Indonesia	Winda Puspitasari Researcher, National Research and Innovation Agency (BRIN)

Funding Modality:

Country	Funding Agency	Funding Modality
Japan	Japan Science and Technology Agency (JST)	New Fund
Thailand	National Research Council of Thailand (NRCT)	New Fund
Indonesia	National Research and Innovation Agency (BRIN)	New Fund

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

Project Investigator & Affiliation:

Country	Project Investigators
Japan	Tasuku Kato <i>Professor, Tokyo University of Agriculture and Technology</i>
Indonesia	I Made Anom Sutrisna Wijaya <i>Professor, Udayana University</i>
Thailand	Surat Bualert <i>Assistant Professor, Kasetsart University</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Japan	Japan Science and Technology Agency (JST)	New Fund
Indonesia	National Research and Innovation Agency (BRIN)	New Fund
Thailand	National Research Council of Thailand (NRCT)	New Fund

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.

Field of Cooperation in Alternative Energy

3.1.2 The 13th Joint Call for Proposals in the field of “Alternative Energy” was open from December 15, 2023, to March 29, 2024. Out of 29 proposals submitted, the Board approved the following three projects for support:

Project 1: “Interface Materials Informatics: A Platform for Semiconductor Interface Design and Optimization in Organic Solar Cells”

Project Investigator & Affiliation:

Country	Project Investigators
Japan	Daniel Packwood <i>Associate Professor, Kyoto University</i>
New Zealand	Justin Hodgkiss <i>Professor and Co-Director, Victoria University of Wellington, The MacDiarmid Institute</i>
Thailand	Pichaya Pattanasattayavong <i>Assistant Professor, Vidyasirimedhi Institute of Science and Technology (VISTEC)</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Japan	Japan Science and Technology Agency (JST)	New Fund

New Zealand	Ministry of Business, Innovation and Employment (MBIE)	New Fund
Thailand	Program Management Unit for Human Resources & Institutional Development, Research, and Innovation (PMU-B)	New Fund

While the efficiency of organic solar cells has dramatically improved in recent years, interfacial losses remain a serious issue. This research aims to develop a virtual optimization platform for semiconductor interfaces in organic solar cells. The platform will compute device properties from first principles and will identify optimal interface compositions using machine learning and evolutionary algorithms. Its reliability will be extensively benchmarked against experimental data. The platform will be a step towards a new materials informatics paradigm: device level virtual screening.

Project 2: “Improving the Sustainability of Resource Recovery from Wet Biomass Waste: Experimentally-validated GIS-based Integrated Biorefineries for Cleaner Mobility”

Project Investigator & Affiliation:

Country	Project Investigators
Japan	Hiroshi Onoda <i>Professor/Dean of Graduate School of Environment and Energy Engineering, Waseda University</i>
Philippines	Rovick Tarife <i>Instructor, Mindanao State University – Iligan Institute of Technology</i>
Indonesia	Hanifrahmawan Sudibyo <i>Assistant Professor, Gadjah Mada University</i>
Thailand	Apanee Luengnaruemitchai <i>Professor, Chulalongkorn University</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Japan	Japan Science and Technology Agency (JST)	New Fund

Philippines	Department of Science and Technology (DOST)	New Fund
Indonesia	National Research and Innovation Agency (BRIN)	New Fund
Thailand	Program Management Unit for Human Resources & Institutional Development, Research, and Innovation (PMU-B)	New Fund

We aim to improve wet biowaste biorefineries' economic and technical viability in Southeast Asia. Our approach includes developing an experimentally informed GIS-based decision-making tool to optimize biorefineries converting municipal solid waste and residues from agri-food and tourism sectors into biofuel and liquid fertilizer. We integrate spatial modeling, experiments, process simulations, and econometrics to evaluate and improve the socio-techno-economic performances. This project supports crafting strategies for sustainable waste management, fostering circular and cleaner mobility energy transitions.

Project 3: “Integrated Biomass Upgrading: Advancing Hydrogen and Valuable Green Chemicals through Electroreforming”

Project Investigator & Affiliation:

Country	Project Investigators
Thailand	Soorathep Kheawhom <i>Associate Professor, Chulalongkorn University</i>
New Zealand	Holger Fiedler <i>Energy Materials Scientist, GNS Science</i>
Japan	Katsuya Teshima <i>Professor, Shinshu University</i>

Funding Modality

Country	Funding Agency	Funding Modality
Thailand	Program Management Unit for Human Resources & Institutional Development, Research, and Innovation (PMU-B)	New Fund

New Zealand	Ministry of Business, Innovation and Employment (MBIE)	New Fund
Japan	Japan Science and Technology Agency (JST)	New Fund

The Cooperative Research Project aims to revolutionize green hydrogen production through a novel biomass electrolysis technique, providing an economically feasible alternative to traditional water splitting methods. By significantly reducing costs and valorizing oxidized by-products, the project focuses on developing a scalable system for converting waste to fuel, tailored to the waste streams of partner countries. This approach promises a targeted, efficient solution for sustainable energy production.

Field of Cooperation in Food and Health

3.1.3 The 13th Joint Call for Proposals on the topics of “**Food and Health**” was open from December 15, 2023, to March 29, 2024. Out of 16 proposals submitted, the Board approved the following three projects for support:

Project 1: “Personalized Model for Metabolic Syndrome Control Through Enriched Fibre Intake”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	Xu-Feng Huang <i>Distinguished Professor, University of Wollongong</i>
Indonesia	Dian Handayani <i>Professor, University of Brawijaya</i>
Thailand	Warangkana Srichamnong <i>Associate Professor, Mahidol University</i>
Philippines	Liezl Atienza, <i>Professor, University of the Philippines Los Banos</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund
Indonesia	National Research and Innovation Agency (BRIN)	New Fund
Thailand	Program Management Unit for Human Resources & Institutional Development, Research, and Innovation (PMU-B)	New Fund
Philippines	Department of Science and Technology (DOST-PCHRD)	New Fund

This cooperative research project aims to combat metabolic syndrome and obesity through collaboration among leading scientists from Australia, Indonesia, the Philippines, and Thailand. By pooling expertise and resources, this initiative seeks to exchange knowledge, enhance student training, and foster international ties. The project's approach emphasizes the development of personalized metabolic syndrome control and reduction of life threatening diseases. The expected outcome is a sustainable research collaboration that innovates in nutrition and health, offering new strategies to tackle metabolic disorders on a global scale.

Project 2: “Peer Nutrition Education for Healthy Child Development”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	Kerith Duncanson <i>Research Fellow, University of Newcastle</i>
Cambodia	Ngik Rem <i>Monitoring & Evaluation Manager, Helen Keller International</i>
Lao PDR	Somphone Soukhavong <i>Technical Officer, Lao Tropical and Public Health Institute</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund
Cambodia	Ministry of Industry, Science, Technology and Innovation (MISTI)	In-kind
Lao PDR	Ministry of Health (MOH)	In-kind

This cooperative research project aims to extend the Parents Informing Child Nutrition in Community (PICNIC) project in Australia to include self-directed learning modules to increase access to this responsive child feeding initiative. The PICNIC project will be applied to the Southeast Asian context through translation of the concepts of responsive feeding and improved diet quality to the Cambodian and Lao contexts.

Project 3: “Identifying Therapeutically Targetable Nutritional Biochemistry and Dietary Intake Profiles to Address Nutrition Impact Symptoms During Chemotherapy: An International Multisite Prospective Cohort Study”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	Megan Crichton <i>Research Fellow and Accredited Practicing Dietitian, Queensland University of Technology</i>
Indonesia	Nurul Huda <i>Researcher & Lecturer, Riau University</i>
Philippines	Mary Karen Vendiola Woolbright <i>Chairman, Cebu Doctors’ University Hospital</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund

Indonesia	National Research and Innovation Agency (BRIN)	New Fund
Philippines	Department of Science and Technology (DOST-PCHRD)	New Fund

Sub-optimal management of common and distressing nutrition impact symptoms (NIS) could be improved with personalized nutrition intervention. This international multisite cohort study will identify therapeutically targetable nutritional biochemistry and dietary intake profiles to address NIS during chemotherapy in 850 participants from Australia, Indonesia, and the Philippines. This will be the first study to measure inter-country differences and cancer-specific personalized nutrition therapeutic targets to improve patient-centered nutrition care during chemotherapy. This research is pivotal in guiding the future change in chemotherapy-related NIS illness trajectory.

Field of Cooperation in Health Research

3.1.4 The 13th Joint Call for Proposals in the field of “**Health Research**” was open from December 15, 2023, to March 29, 2024. Out of 52 proposals submitted, the Board approved the following six projects for support:

Project 1: “Innovative Bacteriophage-Antibiotic Therapeutics Targeting the Extremely-Drug Resistant Superbugs”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	Tony Velkov <i>Associate Professor, Head of the Anti-infective Pharmacology Unit, Monash University</i>
Singapore	Andrea Lay Hoon Kwa <i>Deputy Director, Pharmacy, Singapore General Hospital</i>
USA	Gauri Rao <i>Associate Professor, Director of the Quantitative Disease and Drug Modeling Center, University of Southern California</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund
Singapore	Agency for Science, Technology and Research (A*STAR)	In-kind
USA	National Institute of Allergy and Infectious Diseases (NIAID)	New Fund

Over population and antibiotic overuse has led to widespread infectious diseases caused by antimicrobial resistant (AMR) bacteria. Serendipitously, these unfortunate events have also led to the co-evolution of super-phages in sewage that kill these super-bugs. Our project aims to break the AMR vicious cycle by harnessing the bacterial killing power of these super-phages and combine them with new-generation antibiotics to develop novel therapies against these deadly infections.

Project 2: “Accelerating Vaccine Development for *Plasmodium vivax* malaria”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	James Beeson <i>Deputy Director, Burnet Institute</i>
Indonesia	Rintis Noviyanti <i>Senior Research Scientist, National Research and Innovation Agency (BRIN)</i>
Japan	Eizo Takashima <i>Associate Professor, Ehime University</i>

Funding Modality:

Country	Funding Agency	Funding Modality
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Australia	National Health & Medical Research Council (NHMRC)	New Fund
Indonesia	National Research and Innovation Agency (BRIN)	New Fund
Japan	Japan Agency for Medical Research and Development (AMED)	New Fund

A Plasmodium vivax malaria vaccine is crucial to elimination efforts in Asia-Pacific but remains elusive. This project will advance development of promising vaccine candidates identified as major targets of potent protective functional antibody activity. Lead antigens will undergo extensive evaluation in clinical studies of symptomatic malaria, identifying regions targeted by protective antibodies and not vulnerable to vaccine escape. This will inform optimal candidate design as mRNA vaccines using our established platforms supporting pre-clinical studies and development with industry partners.

Project 3: “Systems Immunology Approaches for the Identification of Biomarkers of Susceptibility and Immunity to Severe Dengue Fever”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	Diana Silvia Hansen <i>Prof/Laboratory Head, Infection Discovery Program Co-Head, Monash Biomedicine Discovery Institute</i>
Indonesia	Bachti Alisjahbana <i>Chairperson, Universitas Padjadjaran</i>
Japan	Kouichi Morita <i>Professor, Nagasaki University</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund

Indonesia	National Research and Innovation Agency (BRIN)	New Fund
Japan	Japan Agency for Medical Research and Development (AMED)	New Fund

This cooperative research project will apply a comprehensive systems immunology approach to cohort studies of individuals with uncomplicated or severe dengue fever recruited at local hospitals in Indonesia. The project will uncover critical correlates of immunity as well as processes leading to life-threatening dengue hemorrhagic fever. The results will inform the design and evaluation of new and safe dengue vaccines and aid the identification of biomarkers to develop diagnostic tools for early detection of cases at risk of severe dengue.

Project 4: “TB-ACQUIRE: Mechanisms and Relevance of Resistance Against Novel Anti-TB Drugs”

Project Investigator & Affiliation

Country	Project Investigators
Australia	Vitali Sintchenko <i>Professor, The University of Sydney</i>
Singapore	Stefan Oehlers <i>Principal Investigator, Agency for Science, Technology and Research (A*STAR)</i>
Philippines	Catherine Ann Sacopon <i>Science Research Specialist II, Research Institute For Tropical Medicine</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund
Singapore	Agency for Science, Technology and Research (A*STAR)	In-kind

Philippines	Department of Science and Technology, (DOST-PCHRD)	New Fund
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TB-ACQUIRE addresses a crucial knowledge gap by investigating the acquisition and spread of resistance against new life-saving TB drugs (BPAL/M). Integrating in vitro, in vivo and ‘in human’ studies with cutting-edge long-read sequencing technology and genomics, TB-ACQUIRE will uncover M. tuberculosis evolution under selective drug pressure, exploring genetic markers and compensatory mechanisms of drug resistance acquisition and spread. TB-ACQUIRE will contribute to national, regional, and global TB control efforts, and inform updates of the 2023 WHO Drug Resistance Mutation Catalogue.

Project 5: “Collaborative Surveillance to Prevent Measles Outbreaks (CoSMO) in Southeast Asia: A Model for Future Pandemics”

Project Investigator & Affiliation:

Country	Project Investigators
Australia	Meru Sheel <i>Associate Professor, The University of Sydney</i>
Lao PDR	Mayfong Mayxay <i>Professor, Vice–Rector and Vice Chair, University of Health Sciences, Ministry of Health; Lao PDR National Immunisation Technical Advisory Group (NITAG)</i>
Philippines	Ma Liza Antoinette Gonzales <i>Professor and Associate Dean for Faculty & Students, University of the Philippines</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Australia	National Health & Medical Research Council (NHMRC)	New Fund
Lao PDR	Ministry of Health (MOH)	In-kind
Philippines	Department of Science and Technology (DOST- PCHRD)	New Fund

Efficient pandemic response relies on governments' ability to identify and monitor diseases in a timely manner. Surveillance in Southeast Asia is often fragmented and ineffective. Using measles as a model, this interdisciplinary project will deliver a new model for collaborative surveillance to eliminate measles and prevent outbreaks in Southeast Asia (Lao PDR and The Philippines). This approach will reduce the morbidity, mortality and socio-economic losses associated with measles. It will also enable a faster and efficient response to emerging infections in the future.

Project 6: “Development of Wastewater Genomic Surveillance Platform Powered by Artificial Intelligence for Next Pandemic Preparedness in Indonesia”

Project Investigator & Affiliation:

Country	Project Investigators
Indonesia	Harimurti Nuradji <i>Head of Research Center, National Research and Innovation (BRIN)</i>
Japan	Ryo Honda <i>Professor, Kanazawa University</i>
Australia	Guangming Jiang <i>Associate Professor, University of Wollongong</i>

Funding Modality:

Country	Funding Agency	Funding Modality
Indonesia	National Research and Innovation (BRIN)	New Fund
Japan	Japan Agency for Medical Research and Development (AMED)	New Fund
Australia	National Health & Medical Research Council (NHMRC)	New Fund

This project aims to create a comprehensive platform for data collection, sharing, and

modeling to track the spread of COVID-19, tuberculosis, and antimicrobial resistance via wastewater surveillance. By employing artificial intelligence, it aims to analyze epidemic trends within communities, leveraging wastewater information into tracers for the origins and spread of diseases to assess intervention effectiveness. The developed platform will support decision-making in disease control, especially for low- and middle-income countries such as Indonesia, where clinical surveillance is limited, by providing insights on the ecology and evolution of the pathogens.

3.2 The 14th Joint Call for Proposals

3.2.1 The 14th Joint Calls for Proposals were open from December 16, 2024, to March 31, 2025, with participation from the following Member Organizations (listed in alphabetical order). The calls covered the following Fields of Cooperation and topics:

- 3.2.1.1 **Alternative Energy:** Hydrogen (Production & Storage; Biohydrogen & Hydrogen from Waste), Fuel (Biofuel & Aviation Fuel), and Energy Storage
- 3.2.1.2 **Disaster Risk Reduction and Management:** Use of Emerging Technologies in Disaster Risk Reduction and Management
- 3.2.1.3 **Health Research:** Infectious Diseases and Immunology (including Antimicrobial Resistance)

Participating Member Organizations and their funding modalities for the 14th Joint Call for Proposals.

Participating Member Organization	Field of Cooperation				
	Alternative Energy			Disaster Risk Reduction and Management	Health Research
	Research Topic				
	Hydrogen (Production & Storage; Biohydrogen & Hydrogen from waste)	Fuel (Biofuel & Aviation Fuel)	Energy Storage	Use of Emerging Technologies in Disaster Risk Reduction and Management	Infectious Diseases and Immunology (including Antimicrobial Resistance)
NHMRC (Australia)					New

Participating Member Organization	Field of Cooperation				
	Alternative Energy			Disaster Risk Reduction and Management	Health Research
	Research Topic				
	<i>Hydrogen (Production & Storage; Biohydrogen & Hydrogen from waste)</i>	<i>Fuel (Biofuel & Aviation Fuel)</i>	<i>Energy Storage</i>	<i>Use of Emerging Technologies in Disaster Risk Reduction and Management</i>	<i>Infectious Diseases and Immunology (including Antimicrobial Resistance)</i>
NSFC (China)	New	New	New	New	New
BRIN (Indonesia)	New and In-kind	New and In-kind	New and In-kind	New and In-kind	New and In-kind
JST (Japan)	New	New	New	New	
AMED (Japan)					New
ASM (Malaysia)				New	New
MOST (Myanmar)	In-kind				
DOST-PCAARRD (Philippines)				New	
DOST-PCHRD (Philippines)					New
DOST-PCIEERD (Philippines)	New	New	New		
A*STAR (Singapore)	In-kind	In-kind	In-kind	In-kind	In-kind
NRCT (Thailand)	New				
PMU-B (Thailand)					New
NIAID (USA)					New, Re-Budgeting, and In-kind
MOST (Vietnam)				New and In-Kind	New and In-kind

3.3 Preparatory Discussion for the 15th Joint Call for Proposals

- 3.3.1 One month after the launch of the questionnaire survey for the 15th Joint Call for Proposals on April 29, 2025, a total of 13 Member Organizations had submitted their research interests. These submissions collectively covered all seven Fields of Cooperation. However, the survey results indicated potential for cross-field integration, with several proposed topics overlapping across multiple fields. Notably, intersections were observed between Advanced Interdisciplinary Research and both Health Research and Environment, as well as clear linkages between Materials and Alternative Energy, and between Agriculture and Health Research.
- 3.3.2 Accordingly, the first online discussion meeting was held on June 24, 2025, to review the survey results and consider proposed research topics for the 15th Call. Based on the discussion, four candidate Fields of Cooperation were identified: **Alternative Energy, Agriculture, Environment, and Health Research**. This was followed by the second online meeting, held from July 22 to 23, 2025, which focused on finalizing research call topics, identifying lead Member Organizations, and preparing for the next step of Call Development Workshop (CDW).
- 3.3.3 However, during the CDW preparation via email correspondence, ASM (Malaysia) and DOST-PCAARRD (Philippines) withdrew their participation in the Field of Cooperation in Environment. As a result, fewer than three participating countries remained in this field, falling short of the program's minimum establishing requirement. The remaining Member Organizations—NSFC (China) and NRCT (Thailand)—agreed with the decision not to pursue this field in the upcoming call. Consequently, the Field of Cooperation in Environment will not be included in the 15th Joint Call for Proposals.

4. Stakeholder Interactions

4.1 International Research Synergy Workshop

- 4.1.1 The workshop aimed to promote collaborative research in East Asia by facilitating the formation of international research teams to apply for the 14th e-ASIA Joint Research Program calls in the fields of Health Research, Disaster Risk Reduction and Management, and Alternative Energy.

4.1.2 The workshop was held on November 25, 2024, via the Zoom platform, and was co-organized by the following Member Organizations:

- National Health and Medical Research Council (NHMRC)
- National Research and Innovation Agency (BRIN)
- Japan Science and Technology Agency (JST)
- Japan Agency for Medical Research and Development (AMED)
- Ministry of Science and Technology (MOST – Myanmar)
- Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)
- Department of Science and Technology (DOST) – Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD)
- National Research Council of Thailand (NRCT)
- National Institute of Allergy and Infectious Diseases (NIAID)
- Ministry of Science and Technology (MOST – Vietnam)
- e-ASIA Secretariat

4.1.3 The workshop was divided into three main sessions:

- Opening Session
- Discussion on the Call and Evaluation Guidelines
- Collaborative Research Presentation & Discussion

4.1.4 Each research area was introduced by the Main Member Organizations and the e-ASIA Secretariat, followed by presentations from invited speakers. These were succeeded by a Pitch Talk session, where self-nominated speakers shared ideas and interests to explore cross-border research partnerships and identify collaborative opportunities within the e-ASIA framework.

5. Impact Assessment

5.1 Proposal and Formation of Working Group

5.1.1 The initiative to conduct an impact assessment of the e-ASIA Joint Research Program was proposed by the Secretariat at the 12th Annual Board Meeting and was favorably received by the Board. In response to the Secretariat's call for volunteers, JST, DOST-PCIEERD, PMU-B, and NIAID, together with the

Secretariat, formed a working group, which held a series of meetings between October 2023 and March 2024.

- 5.1.2 During these meetings, working group members shared their methodologies for impact assessment and broadly agreed to proceed using data from two main sources: existing final reports from completed e-ASIA projects and newly developed surveys to be distributed to Principal Investigators (PIs) of these projects.to Principal Investigators (PIs) of these projects

5.2 Survey Development and Content Review

- 5.2.1 Between October 2024 and February 2025, the group reviewed and finalized the survey content. Two types of questionnaires were developed—one for Member Organizations and another for PI researchers.

- 5.2.2 The MO questionnaire was divided into three sections:

- 5.2.2.1 Section I: Involvement (e.g., alignment with national priorities, perceived benefits, enabling environment)
- 5.2.2.2 Section II: Network and Collaboration (e.g., network expansion, institutional recognition, future engagement potential)
- 5.2.2.3 Section III: Sustainability and Capacity Building (e.g., institutional capacity strengthening, sustained support mechanisms)

- 5.2.3 The PI questionnaire consisted of four sections:

- 5.2.3.1 Section I: Research Activities (e.g., progression of research, expansion of international networks, benefits gained)
- 5.2.3.2 Section II: Collaboration with Society (e.g., engagement with stakeholders or beneficiaries, societal impact)
- 5.2.3.3 Section III: Sustainability (e.g., follow-on funding acquisition, project continuity and sustainability)
- 5.2.3.4 Section IV: Human Resource Development (e.g., training, mentoring, and development of early-career researchers)

5.3 Survey Distribution to Member Organizations and Researchers

- 5.3.1 In March 2025, the finalized survey was distributed to 11 Member

Organizations by the e-ASIA JRP Secretariat, with a request for each MO to disseminate the researcher questionnaire to their respective Principal Investigators (PIs). In total, 69 researchers who had completed their projects and submitted final reports were targeted. These projects included those funded from the 1st Call (2012) through the 5th Call (2016).

5.4 Data Analysis Preparation and Initial Analysis

5.4.1 While awaiting responses, DOST-PCIEERD and the e-ASIA Secretariat held two meetings—in May and July 2025—to discuss potential approaches for analyzing the survey data.

5.4.2 The working group eventually received completed responses from five Member Organizations and nine researchers. The Secretariat analyzed the data collected and derived the following key implications:

<From MOs>

5.4.2.1 For Member Organizations (MO), the average mean score is only around 3.20. This indicates that while the program is seen as relevant, its perceived value has not yet reached a strong or outstanding level.

5.4.2.2 Benefits received the lowest score in terms of involvement, suggesting that members do not yet fully perceive tangible or measurable returns from their participation.

5.4.2.3 Recognition scored lowest (3.0) under networks and collaboration, highlighting a lack of visibility and insufficient acknowledgment of members' contributions.

<From Researchers>

5.4.2.4 The mixed responses suggest that while human resource development is occurring under the e-ASIA JRP, its consistency and depth vary, highlighting a need for more structured or long-term capacity-building initiatives.

5.4.2.5 The overall mean scores for research progress, network expansion, and benefits range from 3.78 to 3.89, with an average

total mean of 3.81. This indicates generally positive researcher perceptions of e-ASIA JRP's support.

5.5 Lessons Learned and Recommendations from Respondents

The working group summarized the lessons learned and recommendations from respondents as follows:

- 5.5.1 When e-ASIA focus areas are closely aligned with organizational priorities, members report higher perceived benefits and stronger engagement.
- 5.5.2 Funding stability is a strength; however, capacity building needs greater emphasis. While members are generally satisfied with funding mechanisms, uneven development in skills and capacities shows that money alone is not sufficient.
- 5.5.3 Low scores for collaboration with local communities and societal stakeholders indicate that research activities largely remain within academic or institutional circles, limiting their broader societal impact.

<End of the Report>



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