

The e-ASIA Joint Research Program
11th Annual Activity Report - Summary
(2022.9 - 2023.8)



e-ASIA JRP Secretariat

Basic Information

This yearly report summarizes the activities of the e-ASIA Joint Research Program during the period from the 11th Annual Board Meeting on September 8, 2022 (Hybrid) to September 5, 2023.

First Edition:

This report was originally approved on September 7, 2023.

The e-ASIA Joint Research Program Annual Activity Report – Summary

Program Administration

The 11th Annual Board Meeting

1. The 11th Annual Board Meeting was held on September 8, 2022, by Zoom platform and onsite (Hybrid), Ms. Emi Kaneko, Secretary General and Mr. Ken Kawabata, e-ASIA Special Program Coordinator served as the meeting's moderators. The Board Members and the representatives, including other participants from 17 out of 22 Member Organizations (MOs) of the Program from 11 out of 14 countries have attended this meeting.
2. The board discussed on expansion of the international collaboration such as solicitation of non-medical research FAs in Australia, New Zealand and USA and providing networking opportunities and fostering activities to researchers.
3. The board also discussed on reconsideration of the current 7 research fields, and we agreed to focus on scoping of call contents and consider not only social demands or global issues, but also MO priority areas, so cross-cutting call topics will be determined.
4. Tentative schedule for the 12th Call for Proposals was shared by the Secretariat that was then approved by the Board.

Events	Actual Schedule of 12th call
Open call (Health/Environment**)	15 December 2022/ 10 January 2023
Close call (Health/Environment**)	30 March 2023/ 28 April 2023
Eligibility Check	3 April – 14 April 2023 (Health) 10 May – 15 May 2023 (Environment)
Review in MOs	25 April – 4 August 2023 (Health) 17 May – 4 August 2023 (Environment)
Joint Review Meeting (as a part of ABM)	6 September 2023
Announcement to applicants	End of November 2023
Contract preparation by each MO	Dec – Feb 2024
Start funding/Implementation	January – March 2024

**Delayed for Environment calls.

5. The Secretariat has coordinated with MOs to organize the scoping activities to enrich and make call text is more effective for the applicants. The Secretariat had hosted monthly meeting for call development in each call topic.

The 36th ad hoc Board Meeting

6. The 35th ad hoc Board Meeting was held via email sent on September 21, 2022.
7. Draft Minutes of the 11th Annual Board Meeting were approved.
8. Candidate Proposals to be Selected for the 11th Call for Proposals were approved, 5 collaborative Research projects for Health research and 3 collaborative Research projects for Alternative Energy.

The 37th ad hoc Board Meeting

9. The 37th ad hoc Board Meeting was held via email sent on December 15, 2022.
10. Formal participation of the National Research and Innovation Agency (BRIN) of the Republic of Indonesia as a new member of the e-ASIA JRP was approved.

The 38th ad hoc Board Meeting

11. The 38th ad hoc Board Meeting was held via email sent on May 31, 2023.
12. Comments from SAC & Experts to six Project Reports was approved.

The 39th ad hoc Board Meeting

13. The 39th ad hoc Board Meeting was held via email sent on June 21, 2023.
14. Formal participation of the Russian Science Foundation (RSF) of Russia as a new member of the e-ASIA JRP was approved.

The 40th ad hoc Board Meeting

15. The 40th ad hoc Board Meeting was held via email sent on June 23, 2023.
16. Formal participation of the Ministry of Business, Innovation and Employment (MBIE) of New Zealand as a new member of the e-ASIA JRP was approved.

Program Secretariat

17. The MOU between JST and NSTDA to locate the Program Secretariat office in NSTDA of Thailand was amended to extend the term of the agreement by three years from 1 August 2023 to 31 July 2026.
18. Dr. Yukio Kemmochi was appointed as the new e-ASIA Secretariat effective April 1, 2023. Dr. Kemmochi assumed the previous position of Mr. Ken Kawabata.












Member Organizations and Guest Partner

1. List of current Member Organizations and their Board Members and

representatives in alphabetical order by country, as of August 2023, is as follows:

*25 Member Organizations from 14 countries

	Country	Name	Title & Organization
1	 Australia	Ms. Prue Torrance	Executive Director, National Health and Medical Research Council (NHMRC)
2	 Cambodia	Dr. Fidero Kuok	Director General of National Institute of Science, Technology & Innovation, Ministry of Industry, Science Technology and Innovation (MISTI)
3	 Cambodia	Dr. Kheng Sim	Deputy-Director of Communicable Disease Control Department, Ministry of Health (MOH)
4	 Indonesia	Prof. M. Faiz Syaib	Director of Research, Technology, and Community Services, Ministry of Education, Culture, Research and Technology (DIKBUDRISTEK)
5	 Indonesia	Prof. Agus Haryono	Deputy Chairman for Facilitation of Research and Innovation, National Research and Innovation Agency (BRIN)
6	 Japan	Dr. Yasushi Ogasaka	Managing Director of Department of International Strategy, Japan Agency of Medical Research and Development (AMED)
7	 Japan	Dr. Kazuhito Hashimoto	President, Japan Science and Technology Agency (JST) (as the agent of MEXT)
8	 Lao PDR	Dr. Rattanaxy Phetsouvanh	Director General of the Department of Communicable Diseases Control, Ministry of Health (MOH)
9	 Lao PDR	Mr. Southiphong Vongxaiya	Director of Research and Development Management Division; Cabinet of Lao Academy of Science, Ministry of Education and Sports (MOES)
10	 Malaysia	Dr. Balamurugan A/L Nallamuthu	Under Secretary of International Division, Ministry of Science, Technology Innovation (MOSTI)
11	 Myanmar	Dr. Phyu Phyu Win	Director General, Department of Research and Innovation (DRI), Ministry of Science and Technology (MOST)
12	 New Zealand	Prof. Sunny Collings	Chief Executive, Health Research Council (HRC)
13	 New Zealand	Dr. Loveday Kempthorne	Manager of International Science Partnerships Department, Ministry of Business, Innovation and Employment (MBIE)
14	 The Philippines	Dr. Leah J. Buendia	Undersecretary for Research and Development, Department of Science and Technology (DOST)

	Country	Name	Title & Organization
15	 Russian Federation	Mr. Alexander Usoltsev	Head of International Relations, Russian Centre for Science Information (RCSI) (former Russian Foundation for Basic Research)
16	 Russian Federation	Mr. Andrey Blinov	Deputy Director General, Russian Science Foundation (RSF)
17	 Singapore	Prof. Andy Hor	Deputy Chief Executive (Research), Agency for Science, Technology and Research (A*STAR)
18	 Thailand	Ms. Kunvara Chotiphansophon	Deputy Director, Agriculture Research Development Agency (ARDA)
19	 Thailand	Prof. Dr. Sompong Klaynongsruang	Director, Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)
20	 Thailand	Dr. Uracha Ruktanonchai	Executive Vice President, Thailand National Science and Technology Development Agency (NSTDA)
21	 Thailand	Dr. Wiparat De-ong	Executive Director, National Research Council of Thailand (NRCT)
22	 Thailand	Associate Prof. Dr. Pongpan Kaewtatip	Vice President, Thailand Science Research and Innovation (TSRI)
23	 U.S.	Ms. Joyelle Kalei Dominique	Director, Office of Global Research, National Institute of Allergy and Infectious Diseases (NIAID)
24	 U.S.	Dr. Paul Pearlman	Program Director, Center for Global Health, National Cancer Institute (NCI)
25	 Vietnam	Ms. Le Thi Viet Lam	Deputy Director General of Department of International Cooperation, Ministry of Science and Technology (MOST)

2. National Science Foundation of Sri Lanka is the Guest Partner organization in the Program since October 2017.

Joint Calls for Proposals

The 11th Joint Calls for Proposals

1. The 11th Joint Call for Proposals on the topics of “ “Infectious Diseases (including

Antimicrobial Resistance)” and “Cancer” in the field of “Health Research” opened from December 15, 2021 to March 30, 2022. Out of the 17 proposals submitted, the following five projects were approved by the Board to be supported:

- i “Applying novel serological exposure markers to quantify residual malaria transmission in the Philippines”

Countries & PIs

Australia	Rhea Longley	Senior Research Officer, The Walter and Eliza Hall Institute of Medical Research (WEHI)
Philippines	Jennifer Luchavez	Chief Science Research Specialist, Research Institute for Tropical Medicine
USA	Gillian Stresman	Assistant Professor/Tenure Track, University of South Florida

Forms of Funding

Australia	New funds	National Health & Medical Research Council (NHMRC)
Philippines	New funds	Department of Science and Technology, Philippine Council for Health Research and Development (DOST-PCHR)
USA	New funds	National Institute of Allergy and Infectious Diseases (NIAID)

This project aims to generate the evidence base for the use of Plasmodium vivax serological exposure markers in the Philippines for identifying residual foci of transmission and to predict and respond to malaria outbreaks. We will achieve this by conducting new health-facility surveys in a province with reported P. vivax outbreaks in the prior two years (total 187 P. vivax cases), applying our serological exposure markers and using the data to inform locally appropriate and evidence-based interventions to accelerate elimination.

- ii “Development of neutralizing agents targeting glycopeptides highly

conserved in SARS-CoV-2 mutant strains”

Countries & PIs

Japan	Hiroaki Tateno	Group Leader, National Institute of Advanced Industrial Science and Technology
USA	Mohamed Abdel-Mohsen	Associate Professor, The Wistar Institute
Thailand	Deanpen Japrunng	Research group director, National Science and Technology Development Agency

Forms of Funding

Japan	New funds	Japan Agency for Medical Research and Development (AMED)
USA	New funds	National Institute of Allergy and Infectious Diseases (NIAID)
Thailand	New funds	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)

This collaborative research aims to develop neutralizing agents such as monoclonal antibodies and aptamers targeting the glycopeptides that are essential for SARS-CoV-2 infection and highly conserved in various mutant strains. The agents specific to the glycopeptides will be produced and analyzed by the integration of glycobiology, chemistry, and virology. The structure of the agents complexed with S protein will also be analyzed. These agents should be able to prevent/treat infections with SARS-CoV-2 variants of concerns or future emerging variants.

- iii “Development of Innovative Antimicrobials for Combatting Multidrug-resistant Gram-negative Bacteria: An integrated multi-disciplinary approach”

Countries & PIs

Australia	Jian Li	Professor, Head of the Laboratory of Antimicrobial Systems Pharmacology, Monash University
USA	Qi Zhou	Associate Professor, Purdue University
Thailand	Visanu Thamlikitkul	Director of WHO Collaborating Center for AMR Prevention and Containment, Siriraj Hospital

Forms of Funding

Australia	New funds	National Health & Medical Research Council (NHMRC)
USA	New funds	National Institute of Allergy and Infectious Diseases (NIAID)
Thailand	New funds	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)

This project will discover urgently needed new antibiotics for life-threatening infections caused by multidrug-resistant Gram-negative pathogens. We will integrate cutting-edge computational, cell and chemical biology and intelligent drug design to discover and evaluate novel, safer lipopeptide antibiotics (Australian team); employ innovative drug delivery technology to develop superior inhalation formulations (USA team); and conduct systematic pre-clinical studies for commercialization of our new antibiotics (Australian and Thai teams). This collaborative project targets a significant unmet global medical need due to antibiotic resistance.

iv **“Gut leak and microbiome contributions to severe dengue disease”**Countries & PIs

Australia	Katryn Stacey	Professor, The University of Queensland
Thailand	Asada Leelahavanichkul	Associate Professor, Chulalongkorn University

Japan	Dieter Turlousse	Senior scientist, National Institute of Advanced Industrial Science and Technology (AIST)
-------	------------------	---

Forms of Funding

Australia	New funds	National Health & Medical Research Council (NHMRC)
Thailand	New funds	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)
Japan	New funds	Japan Agency for Medical Research and Development (AMED)

This cooperative research project aims to establish the role of gut bacteria in the manifestations of severe dengue virus infection. Mosquito-borne dengue virus is a major health threat in the tropics, with severe disease involving life-threatening bleeding and shock. We propose that severe disease is the result of virus-induced damage to the gut, allowing bacterial products into the body. Collaborators in Thailand, Japan and Australia will investigate the impact of gut bacteria on dengue disease and possible live bacterial therapies.

v “Deciphering the AMR and hypervirulence in *Klebsiella pneumoniae* infections”

Countries & PIs

Japan	Yohei Doi	Professor of Medicine, Fujita Health University
Philippines	Christian Francisco	Research Faculty / Consultant, University of the Philippines
USA	Janet Lee	Professor of Medicine, University of Pittsburgh

Forms of Funding

Japan	New funds	Japan Agency for Medical Research and Development (AMED)
-------	-----------	--

Philippines	New funds	Department of Science and Technology, Philippine Council for Health Research and Development (DOST-PCHRD)
USA	New funds	National Institute of Allergy and Infectious Diseases (NIAID)

This tripartite cooperative research project aims to elucidate antimicrobial resistance (AMR) and hypervirulence (HV) of *Klebsiella pneumoniae* (KP) infections in the Philippines and Japan. The overarching hypotheses are that HV strains cause infections with distinct clinical features in the two countries, and that acquisition of AMR adversely affects patient outcome. We will address these hypotheses through prospective patient cohorts supported by microbiology, genomics and virulence studies. Furthermore, we will develop a PCR-based typing method that simultaneously identifies AMR and HV.

2. The 11th Joint Call for Proposals on the topics of “ “Urban and biological wastes to energy, useful biochemicals, and biofuels”, “New fuel cell science and technologies” and “Alternative energies in the tropics and sub-tropics” in the field of “Alternative Energy” opened from December 15, 2021 to March 30, 2022. Out of the 17 proposals submitted, the following three projects were approved by the Board to be supported:

- i “Novel Energy Scavenging Technology”

Countries & PIs

Singapore	Ady Suwardi	Deputy Head of Department / Adj. Asst. Prof., Institute of Materials Research and Engineering, A*STAR
Thailand	Tosawat Seetawan	Scientist / Vice President for Research and Innovation / Prof., Sakon Nakhon Rajabhat University
Myanmar	Soe Ko Ko Aung	Associate Professor, Materials Research Laboratory, Department of Physics, University of Mandalay

Forms of Funding

Singapore	New funds	Agency for Science, Technology and Research (A*STAR)
Thailand	New funds	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)
Myanmar	In-kind participation	Ministry of Science and Technology (MOST)

The objective of this cooperative research project is to recycle waste photovoltaics into integrated photovoltaic-thermoelectric (PV-TE) system to effectively harvest both solar and heat energy using. Our team comprises of multiple PIs with different backgrounds in PV and TE. By integrating thin film PV with bulk TE, the ultimate aim of project is to demonstrate net increase in the efficiency of the PV-TE system compared to standalone PV.

ii **“Sustainable Pathways to Expand ASEAN Renewables”**Countries & PIs

Singapore	Xiaogang He	Assistant Professor, National University of Singapore (NUS)
Japan	Kei Yoshimura	Professor, The University of Tokyo
Thailand	Alan D. Ziegler	Professor, Maejo University

Forms of Funding

Singapore	New funds	Agency for Science, Technology and Research (A*STAR)
Japan	New funds	Japan Science and Technology Agency (JST)
Thailand	New funds	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)

This project aims to identify sustainable and optimal pathways to expand ASEAN renewables. We will develop a novel integrated water-energy planning

model to quantify how improved representation of short-term cascade reservoir operations could enhance grid resilience, increase long-term economic opportunities, and help inform investment strategies in a high-renewables system. Our analytical tools can guide strategic planning of hydropower, pumped storage, transmission lines and other solar/wind infrastructure to facilitate ASEAN to transit to a clean and resilient grid under climate change.

iii “Advanced Catalytic Technologies for Sustainable Utilization of Oil Palm Empty Fruit Bunch”

Countries & PIs

Japan	Toshiyuki Yokoi	Associate Professor, Tokyo Institute of Technology
Thailand	Chawalit Ngamcharussrivichai	Professor, Chulalongkorn University
Philippines	Marlon Conato	Professor, University of the Philippines, Diliman

Forms of Funding

Japan	New funds	Japan Science and Technology Agency (JST)
Thailand	New funds	Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B)
Philippines	New funds	Department of Science and Technology-Philippine Council for Industry, Energy, and Emerging Technology Research and Development (DOST-PCIEERD)

3. The 11th Joint Call for Proposals on the topics of “Greener Digital Cities” in the field of “Advanced Interdisciplinary Research towards Innovation” opened from December 15, 2021 to March 30, 2022. Out of the six proposals submitted, the following two projects were approved by the Board to be supported:

i **“Air-front Smart City: A Business-Life Regenerative Innovation Gateway Hub as Transformer of Economic-system for the Region towards 2050”**

Countries & PIs

Japan	Yoshitsugu Hayashi	Distinguished Professor, Chubu University
Thailand	Pawinee lamtrakul	Associate Professor, Thammasat University
Philippines	Marla Redillas	Associate Professor, De La Salle University

Forms of Funding

Japan	New funds	Japan Science and Technology Agency (JST)
Thailand	New funds	National Research Council of Thailand (NRCT)
Philippines	New funds	Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD)

This cooperative research project aims to provide a new concept and QOL-based evaluation method for air-front smart city developments. Airports and urban development will be connected to the hinterland by transportation and cyber dual networks to achieve industrial innovation and decarbonization. The application and verification will be implemented in different industries in each participating country. Through collaborative and complementary research among three countries, this research is expected to provide a smart city planning and design method applying greener digital technology.

ii **“Seamless Radio and Optical Access Networks for Intelligent commuting and Regional communications with low-cost fabrication”**

Countries & PIs

Japan	Tetsuya Kawanishi	Professor, Waseda University
Thailand	Ukrit Mankong	Associate Professor/Assistant

		Dean for Graduate Programs, Faculty of Engineering, Chiang Mai University
Philippines	Benjamin Dingel	Affiliate Professor, Ateneo de Manila University

Forms of Funding

Japan	New funds	Japan Science and Technology Agency (JST)
Thailand	New funds	National Research Council of Thailand (NRCT)
Philippines	New funds	Department of Science and Technology-Philippine Council for Industry, Energy, and Emerging Technology Research and Development (DOST-PCIEERD)

This cooperative research project aims to develop robust and high-capacity access networks for comprehensive local mobility management and pedestrian protection system, where low-budget base stations along roadsides are connected effectively by using a combination of radio and optical links. These networks also can be used for various regional information services, including telemedicine with biosensing devices. This project will focus on optical and radio technologies for communications and sensing and also on service schemes through field trials.

The 12th Joint Call for Proposals

1. The 12th Joint Calls for Proposals on the topic of “Low Carbon Society” in the field of “Environment” was opened from January 10, 2023 to April 28, 2023 and Joint Calls for Proposals in the fields of “Climate Change and Health Research” was opened from December 15, 2022 to March 30, 2023. These calls have been participating by the following Member Organizations (listed in alphabetical order):

Participating Member Organizations and their funding modalities for the 12th Call for Proposals.

Field	Environment	Climate Change and Health
Topic	Low Carbon Society	
NHMRC (Australia)		New
MOH (Cambodia)		In-kind
DIKBUDRISTEK (Indonesia)	New	New
JST (Japan)	New	
AMED (Japan)		New
MOH (Lao PDR)		In-kind
MOES (Lao PDR)	In-kind	
NRCT (Thailand)	New	New
PMU-B (Thailand)	New	New
NIAID (USA)		New, Re-budgeting, and In-kind
NCI (USA)		Re-budgeting/ In-kind

The selection of the proposals for all these two calls is still in progress.

[Preparatory discussion for the 13th Joint Call for Proposals](#)

1. For the preparation of the 13th Open Call, more extensive deliberations were recommended during the 11th Annual Board Meeting compared to the practices for the 12th Open Call. In line with this, the Secretariat had conducted the questionnaire for the Open Call areas earlier, specifically from

April through June.

2. The questionnaire results were compiled and shared with each Member Organization, and four Preparatory Discussions were held, both in the Health and Non-Health sectors, to narrow down the themes for the 13th Open Call workshop. The overview of the discussions is as follows:
3. In the first discussion, the Secretariat showed the overview of the questionnaire results with a high likelihood of developing an Open Call, where proposals from three or more countries overlapped. Simultaneously, the Secretariat emphasized the need for additional participation in areas with proposals from fewer than two countries. (Both Health and Non-Health on July 3rd)
4. In the second discussion, participating Member Organizations deliberated on the themes for the workshops, considering two options in the Health sector (Infectious Diseases and Immunology, Food and Nutrition), and two options in the Non-Health sector (Alternative Energy and Smart Agriculture) as potential candidates. (Health on July 26th and Non-Health on July 24th)
5. In the third discussion, the workshop themes were finalized (Infectious Diseases and Food and Nutrition for Health and Alternative Energy and Smart Agriculture for Non-Health). Additionally, the responsible Member Organizations for each workshop were determined. (Both Health and Non-Health on August 7th).
6. In the fourth discussion, the specific details of the workshops, including invited speakers and other particulars, were determined. (Both Health and Non-Health on August 29th)

Researcher Interaction

1. The e-ASIA Joint Research Program Workshop on Climate Change and Health @The East West Center-Honolulu, Hawaii

The workshop was held on September 6-7, 2022 via Zoom platform and onsite (Hybrid). This workshop was co-organized by National Institute of Allergy and Infectious Diseases (NIAID), USA and e-ASIA JRP Secretariat supported by Department of Science and Technology (DOST-PCHRD), (DOST-PCIEERD), Philippines, National Cancer Institute (NCI), USA and National Health and Medical Research Council (NHMRC), Australia. There were 41 In-person participants and 82 online participants including 42 invited speakers (Australia, Indonesia, Japan, Philippines, Thailand, USA and Vietnam).

This workshop was divided into seven sessions: (1) Climate Change and Infectious Diseases (2) Climate Driven Disasters and Health (3) Extreme Heat and Air Pollution (4) Climate Change and Cancer (5) Integrating Session – Resilience, Sustainability, and Collaborative Networks (6) - Interdisciplinary Advantages and Potential Cross-Cutting Interventions and (7) Sustainable Solutions, Training Opportunities, and Recommendations for Consideration of e-ASIA JRP. Holding this workshop aimed to;

1. Facilitate interaction among researchers
2. Enhance discussion and brainstorm towards the common issues
3. Provide opportunities to build international joint research teams
4. Disseminate info about the program to wide variety of researchers in East Asian countries

2. The e-ASIA Joint Research Program International Workshop on Environment

The workshop was held on 9-10 February 2023 at Pathumwan Princess Hotel (Bangkok, Thailand). This workshop was co-organized by The Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B), Thailand in cooperation with National Science and Technology Development Agency (NSTDA), Thailand and e-ASIA Secretariat supported by Ministry of Education, Culture, Research and Technology (DIKBUDRISTEK), Indonesia, Japan Science and Technology Agency (JST) and National Research Council of Thailand (NRCT).

This workshop was divided into four sessions: (1) Carbon Capture, Utilization and Storage (CCUS): (Technology-based Solutions) (2) Carbon Capture, Utilization and Storage (CCUS): (Nature-based Solutions) (3) Low carbon Society and (4) Materials (Battery). This workshop aimed to promote environment research in Asia and build a team of researchers to apply for the 12 the-ASIA JRP open call in Environment.

For more information, please visit the following website:

<http://www.the-easia.org/jrp/>

e-ASIA JRP Secretariat Contact Information

Yukio Kemmochi, PhD(Mr)

e-ASIA Special Program Coordinator

Room 218 Innovation Cluster 1 Building

National Science and Technology Development Agency (NSTDA)

111 Thailand Science Park, Phahonyothin Road, Khlong Nueng, Khlong Luang

Pathum Thani 12120 THAILAND

H/P: +66 (0)61 421 0316

e-mail: easia_secretariat@jst.go.jp

website: <http://www.the-easia.org/jrp/>