

***The e-ASIA Joint Research Program***  
6th Annual Activity Report - Summary  
(2017.6 ~ 2018.8)



e-ASIA JRP Secretariat

Basic Information

This yearly report summarizes the activities of the e-ASIA Joint Research Program during the period from the Sixth Annual Board Meeting (June 22-33, 2017) to the Seventh Annual Board Meeting (August 22-33, 2018).

First Edition

This report was originally approved on Aug 23, 2018

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Program Administration

The 6<sup>th</sup> Annual Board Meeting

1. The 6<sup>th</sup> Annual Board Meeting was held on June 22-23, 2017 in Cebu, Philippines, chaired by Department of Science and Technology (DOST).
2. The items that had been approved by the Board through ad hoc Board Meetings were reviewed at the 6<sup>th</sup> Annual Board Meeting.
3. The Board re-discussed the condition/requirements to launch a call or to start funding. They approved that the Member Organizations should submit a Letter of Intent to document their intent to participate in each future call, using a standard form including the “potential number of projects per field to be selected”, “potential funding amount”, and “participating funding modality”, which would be prepared by the Secretariat and approved accordingly by the Board.
4. The Board also re-discussed the number of SAC members and approved “1 SAC member from 1 country”, with the understanding of the following suggestions given by the SAC as alternative ways to cover a broader area of research field in the Program and relative modification of the Program Statute and the SAC’s Terms of Reference:
  - SAC members should obtain inputs from other experts prior to an annual SAC meeting to cover broader area of expertise.
  - If there are multiple Member Organizations (MOs) in one country, the SAC member of that country should have a pre-meeting before an annual SAC meeting with other in-country MOs to collect their inputs.
  - Other experts are able to attend SAC meetings as “Observers” if the officially-appointed SAC member cannot cover a specific area of science and technology to be discussed.
5. Other topics that were approved at the meeting included the contents of the 4<sup>th</sup> Annual Activity Report, modification of the Program Statute to add

Thailand Research Fund in the list of Member Organizations, and implementation of the five year Program activities evaluation by SAC members.

6. Other topics that were discussed at the meeting included the review of the 6<sup>th</sup> Call for Proposals, report of the Final report and the Progress Report, formation of the Grantee Network, draft of the application review process document, potential topics for the 7<sup>th</sup> Call for Proposals, and the two proposals from JST, “Promotion of Young Researchers’ Participation in e-ASIA Projects” and “Review on 5 year activities of the Program for Future Progress”, and future activities of the Program, etc.

#### The 18<sup>th</sup> ad hoc Board Meeting

7. The 18<sup>th</sup> ad hoc Board Meeting was held via email sent on 7<sup>th</sup> September 2017.
8. The collaborative research project on “Research of Expandable Cluster-based Energy Infrastructure in e-Asia Countries” was approved by the Board to support from the 6<sup>th</sup> Call for Proposals on the topic of “Intelligent Infrastructure for Energy” in the field of Advanced Interdisciplinary Research toward Innovation.

#### The 19<sup>th</sup> ad hoc Board Meeting

9. The 19<sup>th</sup> ad hoc Board Meeting was held via email sent on 18<sup>th</sup> October 2017.
10. The following five collaborative research projects were approved from the 6<sup>th</sup> Calls for Proposals: 1) “Elucidating the contribution of HBV/HDV co-/super-infection to hepatocellular carcinoma genome and biology”, 2) “Genetic and Molecular Basis of Resistance and Drug Action in Vivax Malaria”, 3) “Surveillance of specific cancer incidence and mortality in South East Asia, by developing a standard population-based cancer registry system”, and 4) “A study of latitudinal viral gene migration and reassortment of potentially zoonotic avian influenza viruses along wild bird East Asian - Australasian Flyway in Pacific Rim” on the topic of “Infectious Diseases and Cancer” in the field of “Health Research”; and 5) “Development of nano-visualization for structural analyses of genetic materials and early

infection process for further innovation of functional bio-nanotechnology” on the topic of “Functional Bio-Nanotechnology for Innovative Materials System” in the field of “Materials”.

11. Formal participation of the National Science Foundation (NSF) of Sri Lanka as the first Guest Partner of the e-ASIA JRP was approved.
12. Format of the Letter of Intent to participate in an e-ASIA Call for Proposals was rejected.

#### The 20<sup>th</sup> ad hoc Board Meeting

13. The 20<sup>th</sup> ad hoc Board Meeting was held via email sent on 13<sup>th</sup> November 2017.
14. Format of the document to participate in an e-ASIA Call for Proposals, which was rejected in the 19<sup>th</sup> ad hoc Board Meeting, was revised, voted for, and approved.
15. Revision of the Program Statute to correct the status of the Ministry of Science, Technology and Innovation (MOSTI), Malaysia, to “Quasi Member Organization” was approved.

#### The 21<sup>st</sup> ad hoc Board Meeting

16. The 21<sup>st</sup> ad hoc Board Meeting was held via email sent on 30<sup>th</sup> March 2018.
17. The Program related document “Application Review Process”, which stipulate the application review process of an e-ASIA Call for Proposals, was approved.
18. One collaborative research project on the “Generation of selenium nanoparticles and investigation of their bioavailability on laboratory animals and plants” was approved to support from the 6<sup>th</sup> Call for Proposals on the topic of “Functional Bio-Nanotechnology for Innovative Materials System in the fields of “Materials (Nanotechnology)”.

#### The 22<sup>nd</sup> ad hoc Board Meeting

19. The 22<sup>nd</sup> ad hoc Board Meeting was held via email sent on 31<sup>st</sup> May 2018.

20. Revisions of the Program Statute and “Guidelines for the Participation of New Member Organizations in the e-ASIA Joint Research Program” to correct inconsistency in the documents were approved.

21. Revision of the Format of Progress Report and Final Report was approved to separate out fact data (e.g., published papers, oral presentations, etc.) from the Progress Report and Final Report.

22. Minutes of the 6<sup>th</sup> e-ASIA Annual Board Meeting was approved.

The 5<sup>th</sup> Scientific Advisory Council (SAC) Meeting

23. The 5<sup>th</sup> SAC Meeting was held on March 22, 2018 in Hanoi, Vietnam.

24. With the request from the Board at the Annual Board Meeting in Cebu, the SAC members discussed the five year activity evaluation of the Program based on the draft presentation package prepared by the Secretariat, which summarized all the past activities of the Program.

25. Other topics that were discussed at the meeting included “Priority Topics for Future Collaboration”, “Progress Report”, etc.


Program Secretariat

26. 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 2017 to 31 July 2020.

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 2018).

\*19 Member Organizations from 13 countries

	Country	Name	Title & Organization
1	 Australia	Prof. Anne Kelso AO	National Health and Medical Research Council, NHMRC

2	 Cambodia	Dr. Kheng Sim	Deputy-Director of Communicable Disease Control Department, MOH
3	 Indonesia	Prof. Ocky Radjasa	Directorate General of Research and Development, RISTEKDIKTI
4	 Japan	Mr. Masahiko Noda	Managing Director of Department of International Affairs, AMED
5	 Japan	Dr. Michinari Hamaguchi	President, JST (as the agent of MEXT)
6	 Lao PDR	Dr. Silap Boupha	Advisor to the Ministers, MOST
7	 Lao PDR	Dr. Bounlay Phommasack	Deputy Director General of the Department of Hygiene and Prevention, MOH
8	 Malaysia	(TBD)	MOSTI (Status: Quasi Member)
9	 Myanmar	Dr. Win Khaing Moe	Director General, Department of Research and Innovation, MOE
10	 New Zealand	Prof. Kathryn McPherson	Chief Executive, HRC
11	 The Philippines	Dr. Rowena Cristina L. Guevara	Undersecretary for Research & Development, DOST
12	 Russian Federation	Mr. Alexander Usoltsev	Head of International Relations, RFBR
13	 Thailand	Ms. Kunvara Chotiphansophon	Deputy Director, ARDA
14	 Thailand	Dr. Narong Sirilertworakul (deputy: Prof. Prasit Palittapongarnpim)	President, NSTDA (Executive Vice President, NSTDA)
15	 Thailand	Dr. Nares Damrongchai	Chief Executive Officer, TCELS
16	 Thailand	Dr. Pongsakorn Tantilipikorn	Assistant TRF Director for International Research Network and International Relations, TRF
17	 U.S.	Mr. F. Gray Handley	Associate Director for International Research Affairs, NIAID

18	 U.S.	Dr. Paul Pearlman	Health Science Policy Analyst, Center for Global Health, NCI
19	 Vietnam	Ms. Le Thi Viet Lam	Deputy Director General of Department of International Cooperation, MOST

2. In addition to the above Member Organizations, National Science Foundation of Sri Lanka was duly approved to be the first Guest Partner organization in the Program since October 2017.

### Joint Calls for Proposals

#### The 6<sup>th</sup> Joint Calls for Proposals

1. Out of three proposals submitted to the 6<sup>th</sup> Joint Call for Proposals on the topic of “Intelligent Infrastructure for Energy” in the field of “Advanced Interdisciplinary Research towards Innovation” opened from January to March 2017, the following one project was approved by the Board to be supported:
  - i “Research of Expandable Cluster-based Energy Infrastructure in e-Asia Countries” to be supported by JST of Japan, NSTDA of Thailand, DOST of the Philippines, and RISTEKDIKTI of Indonesia.
  
2. Out of 16 proposals submitted to the 6<sup>th</sup> Joint Call for Proposals in the field of “Health Research” opened from December 2016 to February 2017, the following four projects were approved by the Board to be supported:
  - i “Elucidating the contribution of HBV/HDV co-/super-infection to hepatocellular carcinoma genome and biology” to be supported by AMED of Japan, NCI of United States, and MOST of Vietnam.
  - ii “Genetic and Molecular Basis of Resistance and Drug Action in Vivax Malaria” to be supported by HRC of New Zealand, MOST of Vietnam, and MOH of Cambodia.
  - iii “Surveillance of specific cancer incidence and mortality in South East Asia, by developing a standard population-based cancer registry system” to be supported by AMED of Japan, MOH of Cambodia, DOST of the



Philippines, and MOST of Vietnam.

- iv “A study of latitudinal viral gene migration and reassortment of potentially zoonotic avian influenza viruses along wild bird East Asian - Australasian Flyway in Pacific Rim” to be supported by AMED of Japan, RFBR of Russia, MOST of Vietnam, and NIAID of United States.
3. Out of 18 proposals submitted to the 6<sup>th</sup> Joint Call for Proposals on the topic of “Functional Bio-Nanotechnology for Innovative Materials System” in the field of “Materials” opened from January to March 2017, the following two projects were approved by the Board to be supported (one more project is still under evaluation):
- i “Development of nano-visualization for structural analyses of genetic materials and early infection process for further innovation of functional bio-nanotechnology” to be supported by JST of Japan, NSTDA of Thailand, and MOST of Vietnam.
  - ii “Generation of selenium nanoparticles and investigation of their bioavailability on laboratory animals and plants” to be supported by RFBR of Russia, MOST of Vietnam, and NSTDA of Thailand.

The 7<sup>th</sup> Joint Calls for Proposals

4. The 7<sup>th</sup> Joint Calls for Proposals on the topic of “Bioenergy” in the field of “Alternative Energy”, “Torrential Rainfall, Associated Flood and Land Slide” in the field of “Disaster Risk Reduction and Management”, and “Infectious Diseases and Cancer” in the field of “Health Research” were opened from January to March 2018. These calls were supported by the following Member Organizations (listed in alphabetical order):

Participating Member Organizations and their funding modalities for the 7<sup>th</sup> Calls for Proposals

		Bioenergy	Torrential Rainfall, Associated Flood and Land Slide	Infectious Diseases/Cancer
Australia	NHMRC	-	-	-

Cambodia	MOH	-	-	In-kind
Indonesia	RISTEKDIKTI	In-kind*1	In-kind*1	In-kind*1
Japan	JST	New	New	-
	AMED	-	-	New
Lao PDR	MOST	In-kind	-	-
	MOH	-	-	-
Malaysia	MOSTI	-	-	-
Myanmar	MOE	-	-	In-kind
New Zealand	HRC	-	-	New
Philippines	DOST	New, In-kind	-	New, In-kind
Russia	RFBR	New	New	New
Thailand	NSTDA	New	New	New
	ARDA	-	-	-
	TCELS	-	-	-
	TRF	-	-	-
USA	NIAID*2	-	-	New, In-kind, Re-budget
	NCI*3	-	-	New, In-kind, Re-budget
Vietnam	MOST	In-kind	New	-

\*1: “New” funding by RISTEKDIKTI can be provided by applying to the Indonesian funding programs, “INSINAS” and “KLN”, but its review process does not proceed in full coordination with the e-ASIA JRP joint call.

\*2: NIAID supports “Infectious Diseases” related projects only.

\*3: NCI supports “Cancer” related projects only.

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

### Researcher Interaction

#### Workshop in Thailand

1. A workshop on “Strategy for genetic conservation and utilization of endangered or indigenous/native animal species in Asia”, co-organized by JST of Japan, TRF of Thailand, and the e-ASIA Joint Research Program Secretariat was held on March 1-2 at Pathumwan Princess Hotel in Bangkok, Thailand.

2. In the workshop, 38 participants, including 20 presenters, from academia and government of Japan, Philippines, and Thailand enthusiastically discussed potential collaborative research subjects in the field, especially conservation and utilization of genetic resources of chicken, pig, cattle, aquatic animal and strengthened multilateral networking for future collaboration.
3. In addition to the research presentations by invited speakers, participants shared the latest information on the Nagoya Protocol on Access and Benefit sharing, a supplemental agreement on the Convention on Biological Diversity, which shall be observed when international joint research on genetic resources is conducted..

#### Selected Projects

1. The selected projects from the 6<sup>th</sup> Calls of Proposals on the topic of “Intelligent Infrastructure for Energy” in the field of “Advanced Interdisciplinary Research towards Innovation”, on the topics of “Infectious Diseases and Cancer” in the field of “Health Research”, and on the topic of “Functional Bio-Nanotechnology for Innovative Materials System” in the field of “Materials” are as follows:

#### Intelligent Infrastructure for Energy

- i. “Research of Expandable Cluster-based Energy Infrastructure in e-Asia Countries”.

(Countries and Principal Investigators)

Japan: Yosuke Nakanishi, Professor, Waseda University, Energy & Environment Research Center

Thailand: Udom Lewlomphaisarl, Unit Director, National Electronics and Computer Technology Center, Advanced Automation and Electronics Research Unit

Philippines: Noel Estoperez, Professor, MSU-Iligan Institute of Technology, Department of Electrical Engineering

Indonesia: Abraham Lomi, Professor, Malang Institute of Technology, Faculty of Engineering

(Forms of Participation)

Japan: New funds from Japan Science and Technology Agency (JST)

Thailand: New funds from National Science and Technology Development Agency (NSTDA)

Philippines: New funds from Department of Science and Technology (DOST)

Indonesia: “In-kind” participation supported by Ministry of Research, Technology and Higher education (RISTEKDIKTI)

This collaborative research aims to introduce an expandable and environmentally conscious electric power system in the countries of Southeast Asia where expansion of smart energy infrastructure is urgently needed. It is also expected as an effort toward “realizing super smart society (Society 5.0)”, which is one of the basic guidelines for science and technology policy in Japan.

#### Infectious Diseases and Cancer

- i. “Elucidating the contribution of HBV/HDV co-/super-infection to hepatocellular carcinoma genome and biology”

(Countries and Principal Investigators)

Japan: Taro Yamashita, Associate Professor, Kanazawa University, Hospital/General Medicine

USA: Xin Wei Wang, Chief, National Cancer Institute, Laboratory of Human Carcinogenesis

Vietnam: Pham Van Thuc, Professor, Haiphong University of Medical and Pharmacy, Medical and Pharmacy

(Forms of participation)

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

USA: “Re-budgeting” participation supported by National Cancer Institute (NCI)

Vietnam: “In-kind” participation supported by Ministry of Science and Technology (MOST)

This collaborative research aims to identify the molecular features of hepatocellular carcinoma (HCC) developed in the background of hepatitis B virus (HBV) and hepatitis D virus (HDV) co-/super-infection and to provide the molecular basis of HDV infection on the acceleration of liver fibrosis and hepatocarcinogenesis in HBV infected patients.

ii. “Genetic and Molecular Basis of Resistance and Drug Action in Vivax Malaria”

(Countries and Principal Investigators)

New Zealand: Bruce Malcolm Russell, Ph.D., University of Otago, Department of Microbiology and Immunology

Vietnam: Tran Tinh Hien, Professor, Oxford University Clinical Research Unit, Clinical Research

Cambodia: Didier Ménard, Ph.D., Institute Pasteur Cambodia, Malaria Molecular Epidemiology Unit

(Forms of participation)

New Zealand: New funds from Health Research Council (HRC)

Vietnam: “In-kind” participation supported by Ministry of Science and Technology (MOST)

Cambodia: “In-kind” participation supported by Ministry of Health (MOH)

This collaborative research aims to identify molecular markers of drug resistance in *Plasmodium vivax* (Pv) in Vietnam and Cambodia, two countries with evidence of multiple drug resistant vivax (MDRV). These markers will provide a method for tracking the spread of MDRV in Asia and provide information on the mechanisms behind drug action in vivax, which are currently unknown.

iii. “Surveillance of specific cancer incidence and mortality in South East Asia, by developing a standard population-based cancer registry system”

(Countries and Principal Investigators)

Japan: Tomohiro Matsuda, Section Head, National Cancer Center, Center for Cancer Registries

Cambodia: Hav Monirath, Head of Department., Calmette Hospital,  
Department of Pathology

Philippines: Adriano Laudico, Project Director, Philippine Cancer Society  
Inc., Manila Cancer Registry

Vietnam: Dung Pham Xuan, Director, Ho Chi Minh City Oncological  
Hospital

(Forms of participation)

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

Cambodia: “In-kind” participation supported by Ministry of Health (MOH)

Philippines: “In-kind” participation supported by Department of Science  
and Technology (DOST)

Vietnam: “In-kind” participation supported by Ministry of Science and  
Technology (MOST)

This collaborative research aims to conduct an assessment of cancer  
registration status and methods in order to develop training sessions, and  
to quantify the specific cancers in Asia and related risk factors. The  
overall goal of the project is to support the development of registry activity  
via networks in South East Asia.

- iv. “A study of latitudinal viral gene migration and reassortment of potentially  
zoonotic avian influenza viruses along wild bird East Asian - Australasian  
Flyway in Pacific Rim”

(Countries and Principal Investigators)

Japan: Masatoshi Okamatsu, Associate Professor, Hokkaido University,  
Graduate School of Veterinary Medicine

Russia: Alexander Shestopalov, Professor, Research Institute of  
Experimental and Clinical Medicine

Vietnam: Duc-Huy Chu, Ph.D., Department of Animal Health,  
Epidemiology Division

USA: Falk Huettmann, Associate Professor, Institute of Arctic Biology,  
Biology & Wildlife Department

(Forms of participation)

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

Russia: New funds from Russian Foundation for Basic Research (RFBR)

Vietnam: “In-kind” participation supported by Ministry of Science and Technology (MOST)

USA: New funds from National Institute of Allergy and Infectious Diseases (NIAID)

This collaborative research aims to develop new technologies and international collaboration to understand the global ecology of zoonotic avian influenza viruses in animal reservoir species in East Asian – Australasian Flyway by surveillance, virological, and epidemiological studies.

#### Functional Bio-Nanotechnology for Innovative Materials System

- i. “Development of nano-visualization for structural analyses of genetic materials and early infection process for further innovation of functional bio-nanotechnology”

(Countries and Principal Investigators)

Japan: Kiichi Fukui, Professor, Osaka University, Graduate School of Pharmaceutical Sciences

Thailand: Kornorn Srikulnath Assistant Professor, Kasetsart University, Department of Genetics, Faculty of Science

Vietnam: Quoc Bao Nguyen, Lecturer, Nong Lam University, Research Institute for Biotechnology and Environment

(Forms of Participation)

Japan: New funds from Japan Science and Technology Agency (JST)

Thailand: New funds from National Science and Technology Development Agency (NSTDA)

Vietnam: “In-kind” participation supported by Ministry of Science and Technology (MOST)

This research aims to conduct a feasibility study of social implementation

of bioenergy in East Asia by region-wide collaboration among ASEAN countries and Japan. Hands-on training of young researchers is also included in this research.

- ii. “Generation of selenium nanoparticles and investigation of their bioavailability on laboratory animals and plants”

(Countries and Principal Investigators)

Russia: Georgy Airatovich Shafeev, Director, A.M. Prokhorov General Physics Institute, Wave Research Center

Vietnam: Tran Hung Nguyen, Institute of Chemistry and Materials Science, NanoMaterials

Thailand: Nuttaporn Pimpha, Research Unit Director, National Science and Technology Development Agency, National Nanotechnology Center

(Forms of participation)

Russia: New funds from Russian Foundation for Basic Research (RFBR)

Vietnam: New funds from Ministry of Science and Technology (MOST)

Thailand: New funds from National Science and Technology Development Agency (NSTDA)

This research aims to develop the method for selenium nanoparticles generation, investigation of their physics-chemical properties, and their bioavailability on biological systems. The project targets at synthesis of selenium nanoparticles by the laser ablation, chemical and electrochemical methods, and the application of selenium nanoparticles in agriculture and biology.



For more information, please visit the following website:

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

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