e-ASIA Joint Research Program
Final Report

1. Project title：An integrated research for the development of a scheme to control emerging vector-borne viral diseases in Asia

2. Joint Research period：June, 1, 2015 – March, 31, 2019

3. Research Team：

■ **Japan team**（up to 6 people including the Principal Investigator）
Funding period: June, 1, 2015 – March, 31, 2019
Total Funded Amount (in Local Currency):

	Name	Position	Affiliation	Role in the project
PI	Ken Maeda	Professor	Yamaguchi University,	Direct of Japanese team
Collaborator	Eiichi Hondo	Professor	Nagoya University	Research on arbovirus infection in rodents and bats
Collaborator	Ai Takano	Associate Professor	Yamaguchi University	Research on arbovirus infections in wild animals
Collaborator	Hiroshi Shimoda	Associate Professor	Yamaguchi University	Research on tick-borne infectious diseases
Collaborator	Ryusei Kuwata	Researcher	Yamaguchi University	Research on mosquito-borne diseases
Total number of participants including students: 21				

■ **Philippines team**（up to 6 people including the Principal Investigator）
Funding period: September, 2017 – August, 2020
Total Funded Amount (in Local Currency): Unknown

	Name	Position	Affiliation	Role in the project
PI	Emmanuel T. Baltazar	University director, Professor	Central Mindanao University	Surveillance of arbovirus infections in Philippines
Collaborator	Luzviminda T. Simborio	Vice president, Professor	Central Mindanao University	Surveillance of arbovirus infections in Philippines
Collaborator	Jose Alexander C. Abella	Professor	Central Mindanao University	Surveillance of arbovirus infections in Philippines
Collaborator	Alan P. Dargantes	Dean and Professor	Central Mindanao University	Surveillance of arbovirus infections in Philippines
Total number of participants including students: 15				

■ **USA team**（up to 6 people including the Principal Investigator）
All research expense will be used from annual budget of Molecular Virology and Host-Pathogen Interaction Unit, Laboratory of Virology, which is provided by Division of Intramural Research, NIAID, NIH.(Until August, 2018)

	Name	Position	Affiliation	Role in the project
PI	Hideki Ebihara	Principal Investigator/Unit Chief	NIAID, Division of Intramural Research, Laboratory of Virology	Research on tick-borne viruses
Collaborator	Keita Matsuno	Post-doctoral Fellow	NIAID, Division of Intramural Research, Laboratory of Virology	Research on tick-borne viruses
Collaborator	Allison Groseth	Staff Scientist	NIAID, Division of Intramural Research, Laboratory of Virology	Research on tick-borne viruses
Total number of participants including students: 0				

■ **Thailand team** (up to 6 people including the Principal Investigator)
Total Funded Amount (in Local Currency): In kind

	Name	Position	Affiliation	Role in the project
PI	Worawut Rerkamnuaychoke	Dean	Kasetsart University	Surveillance of arbovirus infections in Thailand
Collaborator	Sathaporn Jittapalapong	Professor	Kasetsart University	Surveillance of arbovirus infections in Thailand
Collaborator	Thanmaporn Phichitrasilp	Assistant Professor	Kasetsart University	Surveillance of arbovirus infections in Thailand
Total number of participants including students: 9				

■ **Indonesia team** (up to 6 people including the Principal Investigator)
Total Funded Amount (in Local Currency): In kind

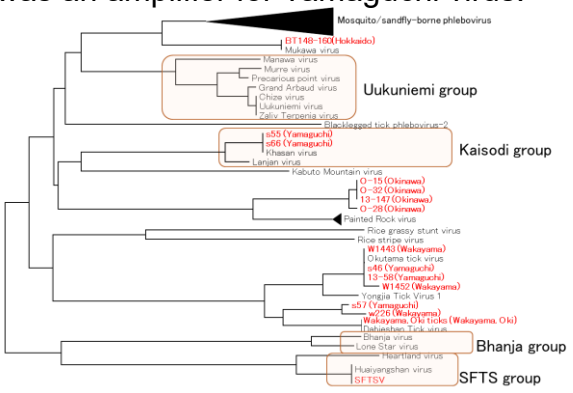
	Name	Position	Affiliation	Role in the project
PI	Srihadi Agungpriyono	Professor and Dean	Bogor Agricultural University	Surveillance of arbovirus infections in Indonesia
Collaborator	Upik Kesumawati	Professor	Bogor Agricultural University	Surveillance of arbovirus infections in Indonesia
Collaborator	Surachmi Setyaningsih	Associate Professor	Bogor Agricultural University	Surveillance of arbovirus infections in Indonesia
Collaborator	Chusnul Choliq	Associate Professor	Bogor Agricultural University	Surveillance of arbovirus infections in Indonesia
Total number of participants including students: 0				

4. Summary of the joint research

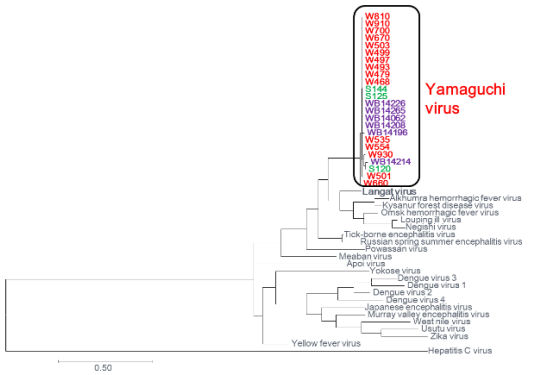
In this project, we proposed to conduct a comprehensive surveillance of emerging vector-borne diseases in wild animals, arthropods, and livestock in South Asian countries and work towards developing risk assessments of the outbreak potential of vector-borne bunyaviruses. Furthermore, our long-range goal is to establish an interactive research network for studying emerging vector-borne diseases, thus improving our ability to predict and prevent the future emergence of vector-borne viruses in Asia.

(1) Identification and molecular-cataloguing of unrecognized arboviruses

Tick-borne viruses, SFTS virus (*Bunyaviridae*), Heramatsu virus (*Reoviridae*), Kemerovo virus (*Reoviridae*), Wad Medani virus (*Reoviridae*), Muko virus (*Reoviridae*), Tarumizu tick virus (*Reoviridae*), Kamigamo virus (*Thogotovirus*), Banna virus (*Reoviridae*), Japanese encephalitis virus (Flaviviridae), Getah virus (Todaviridae) were isolated. Furthermore, mosquito-specific virus, Sarawak virus, Dak Nong virus, Culex flavivirus, Cell fusing agent virus, Aedes flavivirus, Cx theileri flavivirus, Quang Binh virus, Yamadai flavivirus, Himeyama virus were also isolated from mosquitoes. From ticks, three unidentified viruses were isolated. By RT-PCR, Yamaguchi virus (flavivirus), Oz virus (Thaogoto virus) and eight phlevoviruses were detected from domestic ticks. *H. flava*, *H. longicornis*, *A. testudinarium* and *H. kitaokai* were possible vectors for SFTS virus, *Haemaphysalis* spp. were for Yamaguchi virus, *H. kitaokai* was for Nishimuro rhabdovirus, *H. flava* and *A. testudinarium* were for Oz virus, and *H. formosensis* was for Kabuto Mountain virus. Wild boar was an amplifier for Yamaguchi virus.



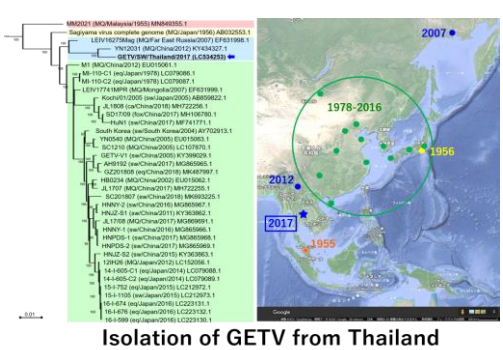
Phylogenetic tree of detected phleboviruses (L, 240bp)
Red shows our detected viruses.



Phylogenetic tree of Yamaguchi virus
Red, green and purples shows Yamaguchi viruses detected from ticks in Wakayama, ticks in Yamaguchi and wild boars in Yamaguchi, respectively.

(2) Molecular and serological surveillance of arbovirus infections to better understand vector-borne virus activities

We confirmed that JEV and Getah virus have been spreading in Asian countries. Interestingly, we discovered that JEV was indigenous in each endemic region over our



Isolation of GETV from Thailand

expectation. We found dengue virus, JEV and Getah virus infections in non-human primates and dengue virus and Zika virus infections in human. Our data indicated that SFTS virus, tick-borne flavivirus and Zika virus rarely infected animals in South-East Asian countries.

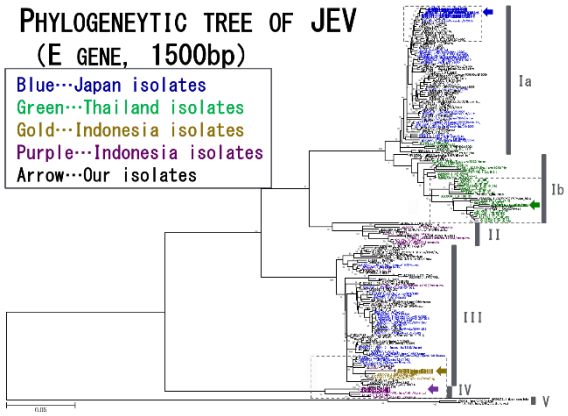
(3) Evaluation of pathogenicity of viruses identified in this study by virological and molecular biological approaches

For ELISA antigens, we succeeded in expression of G and N proteins of SFTSV, Heartland virus, Bhanja virus, Lone star virus, Silverwater virus, Uukuniemi virus, Khasan virus, Precarious Point virus, RML-105355 virus, FinV707 virus, and Kismayo virus and expression of virus-like particles of JEV, TBEV, Powassan virus and West Nile virus.

We found many mosquito-specific viruses and rhabdoviral genes in mosquito's genome. These should interact with pathogenic viruses in mosquito.

(4) Proposition of a model for the geographical distribution, ecological cycle, and evolution of vector-borne viruses

We isolated recent Japanese encephalitis virus (JEV) strains that belong to genotypes I-a, I-b, III, and IV from Japan, Thailand, the Philippines, and Indonesia, respectively. Phylogenetic analysis demonstrated the indigenous distribution of JEVs, suggesting that lineages are maintained in each region. We also isolated Getah virus from Thailand's pig and indicated that Getah virus is also indigenous. We concluded that mosquito-borne viruses can not spread over the region so frequently.



(5) Development of a risk assessment for the emergence of pathogenic arboviruses based on a combination of bioinformatics and the data.

Oz virus infected human and monkeys in Japan. In Indonesia, 11 of 13 humans were infected with dengue virus, 4 were with JEV and one was with Zika virus. Many Indonesian orangutan were infected with JEV, Getah virus and Zika virus. Infection to non-human primates indicated high risk of the pathogen to cause disease in human.

Serosurveillance of JEV in pigs or wild boar suggested that JEV still possess risk for human in Asian countries. In addition, many orangutans were infected with dengue virus, indicating sylvatic cycle of dengue virus infection.

5. Outputs and Anticipated Outcomes of Joint Research

5-1 Scientific achievements and implemented activities of the joint research

1. Our project proved that mosquito-borne virus, JEV, was indigenous more

than expected and that Getah virus was also indigenous. In endemic region, mosquito-borne viruses might be difficult to enter to the other region and the invade to the other region might occur artificially.
2. Many orangutans, Pongo pygmaeus, were infected with dengue virus in Indonesia, suggesting sylvatic cycle of denque virus. On the other hand, few livestock animals and dogs were infected with dengue virus.
3. Getah virus were spreading among many Asian countries and a non-human primate, orangutans, were infected with Getah virus, indicating possibility of Getah virus infection to human and horse in these endemic regions.
4. By our project, transmission cycle of some possible zoonotic pathogens, Oz virus, Kamigamo virus and novel coltivirus were clarified.
5. We succeeded in establishment of serological methods for many tick-borne phleboviruses and many flaviviruses.
6. We detected some tick-borne pathogens in ticks fed on migratory birds, suggesting possible transfer of tick-borne pathogens among islands in Asia.
7. In this project, many arboviruses were isolated and/or detected. It is required to evaluate the risk of these pathogens.

5-2 Synergistic effects of the international joint research

The best effect on research was analysis using animal products that were difficult to transfer between countries because of Animal Quarantine. We introduced research methods and materials in each country and performed research in each country.

1. Isolation of Japanese encephalitis virus from pig sera in Indonesia, Thailand and Philippines.
2. Isolation of Getah virus from a pig serum in Thailand.
3. Serological analysis of many flaviviruses infections in orangutans and human. These materials were difficult to get permission. However, collaborators tried to get permission.
4. Serological analysis of livestock animals in Philippines. Collection of serum samples from many livestocks animals were still on going by Philippine team. This collection is novel and useful for further studies of infectious diseases.
5. Many young scientists of this project teams were exchanged for this project between Japan and Asian countries. They learned each situation of research and applied their experience for their own laboratories.

5-3 Broader impacts including contribution to society

1. Mosquito-borne viruses might frequently invade the other regions, but not endemic. This result indicated that mosquito-borne viruses might be transferred by human activity. For prevention of mosquito-borne viruses, human activities, trade, travel and so on, should be inspected.
2. Tick-borne pathogens are thought to spread less than mosquito-borne

pathogens. However, our data proved that tick-borne pathogens were transferred over the sea by migratory birds.
3. Our groups collected many resources from livestock, wild and companion animals in each country. These novel samples will be useful for global research on further infectious diseases.

5-4 Development and sustainability of the cooperation

1. Philippine team are supported by government from Sep, 2017 to Aug, 2020. Japan team should support their research by supply of technical advice and materials. Japan team should acquire a grant for further collaboration on arbovirus with Philippine team.
2. In Thailand, we are joining the rabies project and are requested for supervise of students on arbovirus research. Japan team should acquire a grant for further collaboration on arthropod-borne zoonosis in companion animals.
3. In Indonesia, we established Advanced research facility including BSL3 laboratory by the other project. In addition, my PhD student from Indonesia will continue further research on arboviruses in Indonesia. Especially, infection of orangutans with Dengue, Zika and Chikungnya viruses should be clarified.
4. In Japan, we are establishing the serological method to detect antibodies against many phleboviruses and flaviviruses. We will apply these methods to each country for evaluation of risk.

The most strength of our project is to establish the system for research on arboviruses in each country. This system must be available for future collaboration. Further grant should support our future project.

6. Future Goals and Plan of Activities after the project period

We succeeded in strong collaboration among Asian countries. This collaboration should be maintained for risk analysis of arboviruses and will be expanded with the other Asian countries. In future, our collaboration is expected to be the center for arbovirus research in Asian and to transmit information to each nation and government.

7. Scientific Achievements and Implemented Activities (Publication, Research Exchange, Workshop, etc.)
For this item, please fill in the attached Excel file.

8. Recommendations and Comments to the Program

e-Asia project is a good system for support of international collaboration. I recommend further expanded support of selected projects with superior achievements.

1. Others (agenda of workshop, photos of research teams, meetings, and etc.)

Kick-off meeting

Collection of mosquitoes in Indonesia

Collection of mosquitoes and ticks in Thailand
(11 November 2015, cowshed in Pathum Thani, Thailand)

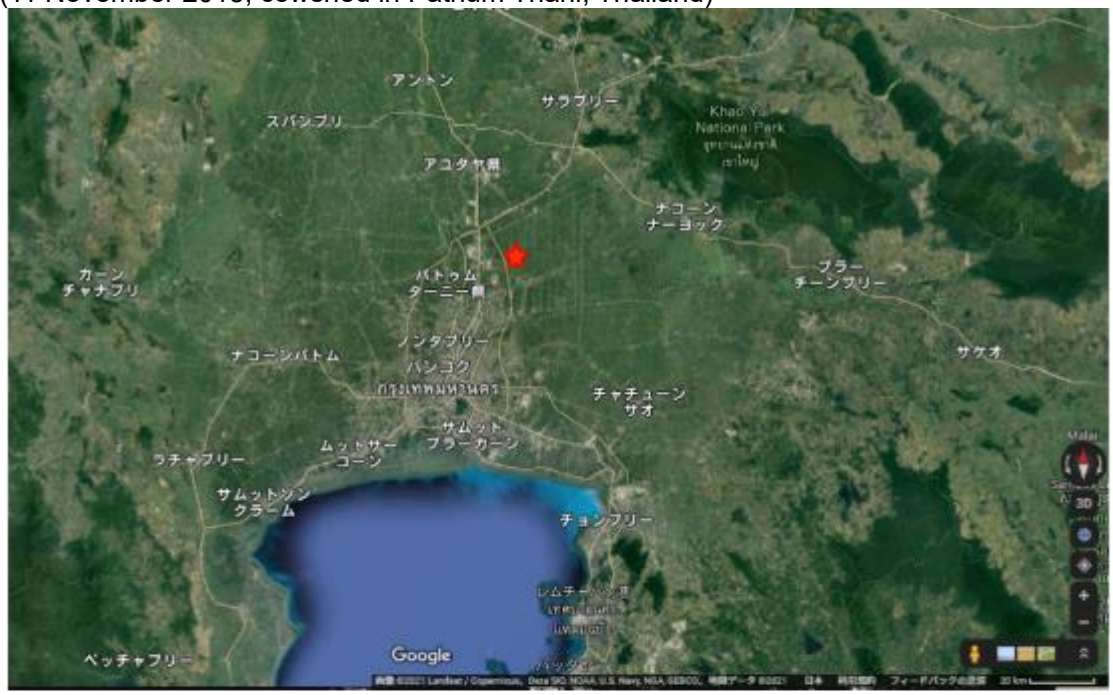


Photo with Philippine team

Lists of Achievements and Implemented Activities

1. Original Publication of Articles etc.

1. 1 Original Publications (Articles co-authored among Research Teams)

All Authors' Names, Title, Journal Name, Volume, Edition, Page, Year of Publication	DOI Code	Publication Status	Remarks (e.g. publication in top level journals etc.)
Supriyono, Takano A, Kuwata R, Shimoda H, Hadi UK, Setiyono A, Agungpriyono S, Maeda K. Detection and isolation of tick-borne bacteria (Anaplasma spp., Rickettsia spp. and Borrelia spp.) in Amblyomma varanense ticks on lizard (Varanus salvator). Microbiol Immunol. 2019 Jun 17.	doi: 10.1111/1348-0421.12721.	in press	
Kuwata R, Shimoda H, Phichitraslip T, Prasertsincharoen N, Noguchi K, Yonemitsu K, Minami S, Supriyono, Tran NTB, Takano A, Suzuki K, Nemoto M, Bannai H, Yokoyama M, Takeda T, Jittapalapong S, Rerkamnuaychoke W, Maeda K* Getah virus epizootic among wild boars in Japan around 2012. Arch Virol. 2018 Oct;163(10):2817-2821.	doi: 10.1007/s00705-018-3897-4.	published	

2	Total

1. 2 Original Publications (Articles by Single Team only)

All Authors' Names, Title, Journal Name, Volume, Edition, Page, Year of Publication	DOI Code	Publication Status	Remarks (e.g. publication in top level journals etc.)	Country name of the team
Makiko Odaka, Kazunori Matsuo, Kazumasa Ogino, Tamotsu Kanazawa, Ryoko Baba, Yoshiyuki Sakata, Kenichi Asada, Syoujirou Kasa, Kenji Takai, Ken Maeda. Efficacy of a novel mixture of substances derived from food and food additives for controlling *Dermanyssus gallinae* (Mesostigmata: Dermanyssidae). Applied Entomology and Zoology 2019. 54(1):31-38.	10.1292/jvms.14-0253	Published		Japan
Shimoda H, Hayasaka D, Yoshii K, Yokoyama M, Suzuki K, Kodera Y, Takeda T, Mizuno J, Noguchi K, Yonemitsu K, Minami S, Kuwata R, Takano A, Maeda K. Detection of a novel tick-borne flavivirus and its serological surveillance. Ticks Tick Borne Dis. 2019 Mar 16. pii: S1877-959X(18)30305-4.	doi: 10.1016/j.ttbdis.2019.03.006.	Published		Japan
Matsuno K, Nonoue N, Noda A, Kasajima N, Noguchi K, Takano A, Shimoda H, Orba Y, Muramatsu M, Sakoda Y, Takada A, Minami S, Une Y, Morikawa S, Maeda K. Fatal cases of endemic tick-borne phlebovirus infection in captive cheetahs 3 (Acinonyx jubatus). Emerging Infectious Diseases 2018. 24(9) 1726-1729.	DOI: 10.3201/eid2409.171667	Published		Japan

Ejiri H, Lim CK, Isawa H, Fujita R, Murota K, Sato T, Kobayashi D, Kan M, Hattori M, Kimura T, Yamaguchi Y, Takayama-Ito M, Horiya M, Posadas-Herrera G, Minami S, Kuwata R, Shimoda H, Maeda K, Katayama Y, Mizutani T, Saijo M, Kaku K, Shinomiya H, Sawabe K. Characterization of a novel thogotovirus isolated from Amblyomma testudinarium ticks in Ehime, Japan: A significant phylogenetic relationship to Bourbon virus. *Virus Res.* 2018 Mar 13;249:57-65.	doi: 10.1016/j.virusres.2018.03.004.	Published		Japan
Ejiri H, Lim CK, Isawa H, Yamaguchi Y, Fujita R, Takayama-Ito M, Kuwata R, Kobayashi D, Horiya M, Posadas-Herrera G, Iizuka-Shiota I, Kakiuchi S, Katayama Y, Hayashi T, Sasaki T, Kobayashi M, Morikawa S, Maeda K, Mizutani T, Kaku K, Saijo M, Sawabe K. Isolation and characterization of Kabuto Mountain virus, a new tick-borne phlebovirus from Haemaphysalis flava ticks in Japan. Virus Res. 2018. 244:252-261.	doi: 10.1016/j.virusres.2017.11.030.	Published		Japan
Fujita R, Ejiri H, Lim CK, Noda S, Yamauchi T, Watanabe M, Kobayashi D, Takayama-Ito M, Murota K, Posadas-Herrera G, Minami S, Kuwata R, Yamaguchi Y, Horiya M, Katayama Y, Shimoda H, Saijo M, Maeda K, Mizutani T, Isawa H, Sawabe K. Isolation and Characterization of Tarumizu tick virus: a new coltivirus from *Haemaphysalis flava* ticks in Japan. *Virus Res.* 2017 Oct 15;242:131-140.	doi: 10.1016/j.virusres.2017.09.017.	Published		Japan
Odaka M, Ogino K, Shikada M, Asada K, Kasa S, Inoue T, Maeda K*. Correlation between the proportion of stained eggs and the number of mites (*Dermanyssus gallinae*) monitored using a "non-parallel board trap" *Animal Science Journal* 2017 Dec;88(12):2077-2083.	doi: 10.1111/asj.12860.	Published		Japan
Iwabu-Itoh Y, Bazartseren B, Naranbaatar O, Yondonjamts E, Furuno K, Lee K, Sato K, Kawabata H, Takada N, Andoh M, Kajita H, Oikawa Y, Nakao M, Ohnishi M, Watarai M, Shimoda H, Maeda K, Takano A. Tick surveillance for *Borrelia miyamotoi* and phylogenetic analysis of isolates in Mongolia and Japan. *Ticks Tick Borne Dis.* 2017 Oct;8(6):850-857.	doi: 10.1016/j.ttbdis.2017.06.011.	Published		Japan
Furuno K, Lee K, Itoh Y, Suzuki K, Yonemitsu K, Kuwata R, Shimoda H, Watarai M, Maeda K, Takano A. Epidemiological study of relapsing fever borreliae detected in *Haemaphysalis* ticks and wild animals in the western part of Japan. *PLOS One* 2017 Mar 31;12(3):e0174727.	doi: 10.1371/journal.pone.0174727	Published		Japan
Ejiri H, Lim C-K, Isawa H, Kuwata R, Kobayashi D, Yamaguchi Y, Takayama-Ito M, Kinoshita-Yamaguchi H, Kakiuchi S, Horiya M, Kotaki A, Takasaki T, Maeda K, Hayashi T, Sasaki T, Kobayashi M, Saijo M, Sawabe K. Genetic and biological characterization of Muko virus, a new distinct member of the species *Great Island virus* (genus *Orbivirus*, family *Reoviridae*), isolated from ixodid ticks in Japan. *Archives of Virology* 2015 Dec;160(12):2965-77.	doi: 10.1007/s00705-015-2588-7.	Published		Japan
Yoshikawa T, Shimojima M, Fukushi S, Tani H, Fukuma A, Taniguchi S, Singh H, Suda Y, Sirabe K, Toda S, Shimazu Y, Nomachi T, Gokuden M, Morimitsu T, Ando K, Yoshikawa A, Kan M, Uramoto M, Hideo O, Kida K, Takimoto H, Kitamoto H, Terasoma F, Honda A, Maeda K, Takahashi T, Yamagishi T, Oishi K, Morikawa S, Saijo M. Phylogenetic and geographic relationships of severe fever with thrombocytopenia syndrome virus in China, South Korea and Japan. *Journal of Infectious Diseases* 2015.212(6):889-898.	doi: 10.1093/infdis/jiv144	Published		Japan
Kuwata R, Isawa H, Hoshino K, Sasaki T, Kobayashi M, Maeda K, Sawabe K. Analysis of mosquito-borne flavivirus superinfection in Culex tritaeniorhynchus (Diptera: Culicidae) cells persistently infected with Culex Flavivirus (Flaviviridae). *Journal of Medical Entomology* 2015. 52 (2), 222-229.	doi: 10.1093/jme/tju059.	Published		Japan
Kuwata R, Sugiyama H, Yonemitsu K, Dung NV, Terada Y, Taniguchi M, Shimoda H, Takano A, Maeda K* Isolation of Japanese encephalitis virus and a novel insect-specific flavivirus from mosquitoes collected in a cowshed in Japan. *Archives of Virology* 2015. 160(9): 2151-2159.	doi: 10.1007/s00705-018-3897-4.	Published		Japan

13	Total

Lists of Achievements and Implemented Activities

2. presentations at Academic Conferences etc. (Seminars, Workshops, Symposia)

2. 1 Conference Presentations (Joint Presentations among Research Teams)

Date	Type of Presentation	Speaker, "Title", Conference Name, Location, etc.
February 28, 2018	Poster presentation	Supriyono, Kuwata R, Shimoda H, Hadi UK, Setiyono A, Agungpriyono S, Hondo E, Taano A, Maeda K. "Detection and isolation of tick-borne bacteria (Rickettsia spp., Anaplasma spp., and Borrelia spp.) in Aponomma lucari ticks coolected from lizard (Varanus salvator) in Indonesia." International Symposium in Veterinary Science 2018. Gadjah Mada University, Indonesia
January 19, 2017	Poster presentation	Supriyono, Takano A, Kuwata R, Shimoda H, Sugiyama H, Torii S, Minami S, Nagata N, Yonemitsu K, Nguyen VD, Phichitraslip T, Rerkamnuaychoke W, Dargantes AP, Abella JA, Baltazar ET, Simborio LT, Ebihara H, Kesumawati U, Setiyono A, Agungpriyono S, Mizutani T, Hondo E, Maeda K「ISOLATION AND IDENTIFICATION OF PATHOGENS FROM TICKS AND MOSQUITOES IN ASIAN COUNTRIES」International Symposium in Veterinary Science: Strengthening The Collaboration Between Indonesia and Japanese Veterinary School. Indonesia, Bogor Agricultural University
January 19, 2017	Poster presentation	Takano A, Itoh Y, Furuno K, Lee K, Suzuki K, Kawabata H, Takada N, Andoh M, Kajita H, Oikawa Y, Nakao M, Yonemitsu K, Kuwata R, Watarai M, Shimoda H, Maeda K「Epidemiological study of tick borne relapsing fever *Borrelia* spp. in Japan」International Symposium in Veterinary Science: Strengthening The Collaboration Between Indonesia and Japanese Veterinary School.(Indonesia, Bogor Agricultural University)
February 8, 2019	Poster presentation	Supriyono, Ryusei Kuwata, Hiroshi Shimoda, Keita Noguchi, Kenzo Yonemitsu, Shohei Minami, Ngo Thuy Bao Tran, Yudai Kuroda, Tatemoto Kango, Milagros Virhuez Mendoza, Dewi Maria Yuliani, Dimas Abiyoga, Agus Fahroni, Upik Kesumawati Hadi, Agus Setiyono, Srihadi Agungpriyono, Eiichi Hondo, Ken Maeda. "FLAVIVIRUS INFECTION AMONG ANIMALS AND HUMAN IN INDONESIA." The 3rd International Symposium in Veterinary Science. (Airlangga University, Surabaya, Indonesia) 2019/2/8
october 28-30, 2018	Oral presentation	Ryusei Kuwata, Shun Torii, Hiroshi Shimoda, Supriyono Supriyono, Ai Takano, Keita Noguchi, Kenzo Yonemitsu, Shohei Minami, Yudai Kuroda, Phichitrasilp Thanmaporn, Prasertsincharoen Noppadol, Abella Alexander Jose, Dargantes Alan, Baltazar Emmanuel, Simborio Luzviminda, Upik Kesumawati Hadi, Agungpriyono Srihadi, Rerkamnuaychoke Worawut, Eiichi Hondo, Ken Maeda. "Indigenous distribution of mosquito-borne arboviruses." The 66th Annual Meeting of the JSV. (Kyoto) 2018/10/28-30
September 11-12, 2018	Oral presentator	Ryusei Kuwata, Shun Torii, Hiroshi Shimoda, Supriyono, Ngo Thuy Bao Tran, Shohe Minami, Kenzo Yonemitsu, Ai Takano, Phichitraslip Thanmaporn、Emmanuel Baltazar、Srihadi Agungpriyono、Worawut Rerkamnuaychoke、Eiichi Hondo, Ken Maeda. The 161st conference of Japanese Society of Veternary Science. Tsukuba, Tokyo
September 11-12, 2018	Oral presentation	Supriyono, Ai Takano, RYusei Kuwata, Hiroshi Shimoda, Keita Noguchi, Kenzo Yonemitsu, Shohei Minami, Yudai Kuroda, Upik Kesumawati、Agus Setiyono、Srihadi Agungpriyono、Eiichi Hondo, Ken Maeda「Detection of tick-borne bacteria(Rickettsia sp.,Ehrlichia sp.and Borrelia sp.)in ticks on wild boar in Indonesia.」The 161st conference of Japanese Society of Veternary Science. Tsukuba, Tokyo

June 23–24, 2018	Oral presentation	RYusei Kuwata, Shun Torii, Supriyono,Ngo Thi Bao Tran,Shohei Minami, Kenzo Yonemitsu, Keita Noguchi, Phichitrasilp T,Prasertsincharoen N,Abella JA,Dargantes AP, Emmanuel BT,Simborio LT, Kesumawati U,Agungpriyono S,Rerkamnuaychoke W,Jittapalapong S, Ai Takano, Hiroshi Shimoda, Eiichi Hondo, Ken Maeda" Recent Asian isolates of JEV indicated indigenous distribution of JEV" The 33rd Meeting for Society of Virologists in Chugoku and Shikoku ditstricts. Okayama University, Okayama
June 1, 2018	Oral presentation	R Kuwata, S. Torii, Supriyono, S. Minami, K. Yonemitsu, A. Takano, H. SHimoda, Thanmaporn Phichitrasilp, Noppadol Prasertsincharoen, Upik Kesumawati, Alan P. Dargantes, Jose Alexander C. Abella, Luzviminda T. Simborio, Emmanuel T. Baltazar, Srihadi Agungpriyono, Worawut Rerkamnuaychoke, Sathaporn Jittapalapong, E. Hondo, K. Maeda "Maintenance of JEB in each endemic region" The 53rd Meeting of Japanese encephalitis virus. (Tochigi)
May 31,2018	Oral presentation	R. Kuwata, S. Torii, Supriyono, Ngo Thuy Bao Tran, K. Noguchi, S. Minami, K. Yonemitsu, A. Takano, H. Shimoda, Thanmaporn Phichitrasilp, Noppadol Prasertsincharoen, Upik Kesumawati, Emmanuel T. Baltazar, Srihadi Agungpriyono, Worawut Rerkamnuaychoke, Sathaporn Jittapalapong, E.Hondo, K. Maeda "Various mosquito-specific viruses isolated from mosquitoes in Asian countries" The 70th Meeting of the Japan Society of Medical Entomology and Zoology, Hokkaido
October 24–26, 2017	Poster	Shun Torii、Ryusei Kuwata、Supri Supriyono、Keita Noguchi、Nao Nagata、Shouhei Minami1、Kenzo Yonemitsu、Hiroshi Shimoda、Upik Kesumawati、Kentaro Itokawa、Haruhiko Isawa、Kyouko Sawabe、Ken Maeda. "Analysis of the endogenous virus-like sequences in mosquito genome" The 65th Annual Meeting of JSV. Osaka.
October 24–26, 2017	Poster	Ryusei Kuwata、Hiroshi Shimoda、Hiroshi Bannai、Manabu Nemoto、 Thanmaporn Phichitraslip、Noppadol Prasertsincharoen、Supriono Supri、Shohei Minami、 Nao Nagata、Kenzo Yonemitsu、Keita Noguchi、Ai Takano、Sathaporn Jittapalapong、Worawut Rerkamnuaychoke、Ken Maeda. "A recent Getah virus outbreak in Japan was occurred during 2012" The 65th Annual Meeting of JSV. Osaka.
September 13–15, 2018	Oral Presentation	R. Kuwata, H. Shimoda, H. Bannai, M. Nemoto, Thanmaporn Phichitrasilp、Noppadol Prasertsincharoen、Supriyono Supri, S. Minami,N. Nagata, K. Yonemitsu, K. Noguchi, Sathaporn Jittapalapong、Worawut Rerkamnuaychoke, K. Maeda "Serosurveillance of Getah virus and Japanese encephalitis virus infections" The 160th Meeting of the Japanese Society of Veterinary Science. Kagoshima
September 13–15, 2018	Oral Presentation	S. Torii, R. Kuwata, Supriyon, H. Shimoda, Thanmaporn Phichitrasilp、Noppadol Prasertsincharoen、Upik Kesumawati、Emmanuel T. Baltazar、Srihadi Agungpriyono、Worawut Rerkamnuaychoke、Bazartseren Boldbaatar、E. Hondo, K. Maeda "Surveillance of mosquito-borne viruses infection in Asia" The 160th Meeting of the Japanese Society of Veterinary Science. Kagoshima
September 13–15, 2018	Oral Presentation	Supriyono, A. Takano, R. Kuwata, H. Shimoda, Jumrueang PanpiansiUpik Hadi、Agus Setiyono、Srihadi Agungpriyono、E. Hondo, K. Maeda "Detection and isolation of tick-borne bacteria in *Aponomma lucasi* ticks on lizard (Varanus salvator) in Indonesia" The 160th Meeting of the Japanese Society of Veterinary Science. Kagoshima
April 15–16, 2017	Ora presentation	R. Kuwata, H, Shimoda, H. Sugiyama, Thanmaporn Phichitrasilp, Nutcha Nuansri, Siriwan Khomkrajang, Teeraporn Srinivat, Warunee Buadok, Noppadol Prasertsincharoen, Sathaporn Jittapalapong, Worawut Rerkamnuaychoke, Ken Maeda "National sero-surveillance of JEV and Getah virus infections among wild boars" The 69th Meeting of the Japan Society of Medical Entomology and Zoology, Nagasaki
October 22, 2016	Ora presentation	H. Shimoda,Dung van Nguyen, K. Yonemitsu,S. Minami, N. Nagata, R. Kuwata, A. Takano, R. Kobayashi, Yupadee Hengjan, Thanmaporn Phichitraslip, Noppadol Prasertsincharoen, Supriyono, Upik Kesumawati, Agus Setiyono, Alan P. Dargantes, Jose Alexander C. Abella, Emmanuel T. Baltazar, Luzviminda T. Simborio, Jumrueang Panpiansil, Srihadi Agungpriyono, Worawut Rerkamnuaychoke, H. Ebihara, E. Hondo, K. Maeda " Flvivirus infection in Asian countries" The 23rd Meeting of Research on Toga/Flavi/Pestivirus. Hookaido University, Hokkaido

October 22, 2016	Ora presentation	R. Kuwata, H Sugiyama, S. Torii, A. Takano, H. Shimoda, K. Yonemitsu, R Kobayashi, Yupadee Hengjan, Thanmaporn Phichitraslip, Noppadol Prasertsincharoen, Supriyono, Upik Kesumawati, Agus Setiyono, Alan P. Dargantes, Jose Alexander C. Abella, Emmanuel T. Baltazar, Luzviminda T. Simborio, Jumrueang Panpiansil, Srihadi Agungpriyono, Worawut Rerkamnuaychoke, H. Ebihara, Eiichi Hondo, K. Maeda "Surveillance of mosquito-borne viruses in South-East Asia". The 23rd Meeting of Research on Toga/Flavi/Pestivirus. Hookaido University, Hokkaido
August 18, 2015	Invited Speaker	Ken Maeda, Eiichi Hondo, Srihadi Agunpriyono, Emmanuel T. Baltazar and Worawut Rerkamnuayshoke. "Surveillance of Abrovirus Infection in Asia." International Joint Seminar of New Core to Core Program A. Advanced Research Networks-Establishment of an international research core for new bio-research fields with microbes from tropical areas-(World-class research hub of tropical microbial resources and their utilization) and e-ASIA JRP-An integrated research for the development of a scheme to control emerging vector-borne viral diseases in Asia- (Part of The Thailand Research EXPO 2015) "INNOVATIVE RESEARCHES ON MICROBIAL RESOURCES AND ECOSYSTEM IN TROPICAL AREAS" 18th August 2015, 8.30 am - 17.00 pm. Centara Grand & Bangkok Convention Centre, Central World, Thailand
19	Total	

2. 2 Conference Presentations (by Single Team)

Date	Type of Presentation	Speaker, "Title", Conference Name, Location etc.	Country name of the team
October 28, 2018	Invited Speaker	Ken Maeda, "Viruses from ticks, mosquitoes, animals and human」Neo-virology: The diversity of viruses on the earth." The 66th Annual Meeting of the JSV, Kyoto	Japan
September 12, 2018	Invited Speaker	Ken Maeda, "Virus infections in raccoons: SFTS, pseudorabies, influenza, distemper etc." The 162nd meeting of the Japanese Society of Veterinary Science, Tukuba	Japan
August 5, 2018	Invited Speaker	Ken Maeda "Risk of zoonosis from companion animals to veterinary clinicians; SFTS" VICA, Tokyo	Japan
May 31, 2018	Invited Speaker	Ken Maeda "SFTSV infection in animals and the risk of infection to human" The 92nd conference of the Japanese Association of Infectious Diseases, Okayama	Japan
March 11, 2018	Invited speaker	Ken Maeda, "SFTS infections among wild animals and expansion of the infection in companion animals" 2018 meeting of Chiba Veterinary Medical Association, CHiba	Japan
February 28, 2018	Speaker	Ai Takano "MSLA analysis of Lyme diseases Borrelia spp. isolated from birds-associated ticks" International Symposium in Veterinary Science 2018. Indonesia	Japan
February 17, 2018	Invited Speaker	Ken Maeda "SFTSV infection in animals" The 14th conference of Japanese College of Veterinary Internal Medicine. Kanagawa	Japan
February 11, 2018	Invited Speaker	Ken Maeda, "Recent information on SFTSV" Annual Veterinary Conference 2019, Kanagawa	Japan
December 22, 2017	Invited Speaker	Ken Maeda, "Dangerous pathogens around us! Lesson from animals" Symposium for emerging-reemerging infectious diseases, Tottori	Japan
September 19, 2017	Invited Speaker	Ken Maeda "Nation-wide survey of SFTS in animals and the prevention" The 38th Annual Meeting of Japanese Society of Clinical Veterinary Medicine, Osaka	Japan
September 14, 2017	Invited Speaker	Ai Takano, "Recent situation and the problem of arthropod-borne infectious diseases", The 160th Meeting of the Japanese Society of Veterinary Science, Kagoshima	Japan

September 29, 2017	Invited Speaker	Ken Maeda, "SFTSV infection in animals" Public symposium on SFTS, Yamaguchi	Japan
December 3, 2016	Invited Speaker	Ken Maeda, "International collaboration on arthropod-borne infectious diseases" Symposium in Nihon University, Kanagawa	Japan
November 25, 2016	Invited Speaker	Ken Maeda, "Possibility of invasion of tropical infectious diseases to Japan", Symposium by Research Center for Thermotolerant Microbial Resources, Yamaguchi	Japan
November 6, 2016	Invited Speaker	Ken Maeda, "Analysis of SFTS in veterinary field" The 3rd symposium by Japanese Medical Association and Japanese Veterinary Medical Association, Tokyo	Japan
September 14, 2019	Invited speaker	Maeda K「Vector-borne viral diseases」Special seminar, Faculty of Veterinary Technology, Kasetsart University (Thailand)	Japan
July 7, 2016	Invited speaker	Maeda K「e-Asia joint Research Project on Arboviruses」University Research Seminar in celebration of the 2016 National Science and Technology Week(CMU, Musuan, Bukidnon, Philippines)	Japan
February 8, 2019	Oral presentation	Ngo Thuy Bao Tran, Ryusei Kuwata, Supriyono, Keita Noguchi, Kenzo Yonemitsu, Shohei Minami,Tatemoto Kango, Yudai Kuroda, Milagros Virhuez Mendoza, Ai Takano, Hiroshi Shimoda, Ken Maeda. "STUDIES ON MOSQUITO- AND TICK-BORNE FLAVIVIRUSES." The 3rd International Symposium in Veterinary Science. (Airlangga University, Surabaya, Indonesia)	Japan
October 28-30, 2018	Oral presentation	Kango Tatemoto, Keita Noguchi, Shohei Minami, Kenzo Yonemitsu, Supriyono Supriyono, Tran Thuy Bao Ngo, Junko Mizuno, Ryusei Kuwata, Ai Takano, Hiroshi Shimoda, Masami Suenaga, Kazuo Suzuki, Shigeru Morikawa, Ken Maeda. "Severe fever with thrombocytopenia syndrome virus (SFTSV) infection among wild animals in Japan (2018)." The 66th Annual Meeting of the JSV. (Kyoto) 2018/10/28-30	Japan
October 28-30, 2018	Oral presentation	Keita Noguchi, Kango Tatemoto, Shohei Minami, Kenzo Yonemitsu, Supriyono Supriyono, Tran Thuy Bao Ngo, Junko Mizuno, Ryusei Kuwata, Ai Takano, Hiroshi Shimoda, Takehisa Soma, Shigeru Morikawa3), Ken MaedaOccurrence situations of SFTS among cats and dogs in Japan (2017) The 66th Annual Meeting of the JSV. (Kyoto)	Japan
October 28-30, 2018	Oral presentation	Hiroshi Shimoda, Shohei Minami, Ai Takano, Shiori Aoki, Junko Mizuno, Kango Tatemoto, Kenzo Yonemitsu, Yono Supri, Tran Thuy Bao Ngo, Ryusei Kuwata, Katsuyoshi Umada, Noboru Nakamura, Tomohiro Deguchi, Ken Maeda1 "Possible transportation of tick-borne viruses by migratory birds." The 66th Annual Meeting of the JSV. (Kyoto)	Japan
October 24-26, 2017	Oral presentation	Shun Torii、Ryusei Kuwata、Supri Supriyono、Keita Noguchi、Nao Nagata、Shouhei Minami1、Kenzo Yonemitsu、Hiroshi Shimoda、Upik Kesumawati、Kentaro Itokawa、Haruhiko Isawa、Kyouko Sawabe、Ken Maeda. Analysis of the endogenous virus-like sequences in mosquito genome" The 65th Annual Meeting of the JSV. (Osaka)	Japan
October 24-26, 2017	Oral presentation	Ken Maeda、Nao Nagata、Kenzo Yonemitsu、Shohei Minami、Ryusei Kuwata、 Hiroshi Shimoda、Ai Takano、Kazuo Suzuki、Asayo Okimi、Shigeru Morikawa. "The first case of severe fever with thrombocytopenia syndrome in a cat"The 65th Annual Meeting of the JSV (Osaka)	Japan
October 24-26, 2017	Speaker	Shohei Minami、Shiori Aoki、Nao Nagata、Kenzo Yonemitsu、Keita Noguchi、Ryusei Kuwata、Hiroshi Shimoda、Miki Yoshizawa、Haruna Inoue、Shun Saito、Takashi Watabe、Ryusuke Fujita、Hiroko Ejiri、Haruhiko Isawa、Kyoko Sawabe、Shigeru Morikawa、Ken Maeda. "Isolation of a novel coltivirus from the cerebral fluid of a dead raccoon dog" The 65th Annual Meeting of the JSV (Osaka)	Japan
October 25-27, 2016	Speaker	Ryusei Kuwata, Kenzo Yonemitsu, Hiroshi Shimoda, Jun Kobayashi, Ken Maeda. "Comparison of growth of flaviviruses in mosquito cell lines" The 64th Annual Meeting of the JSV (Hokkaido)	Japan
October 25-27, 2016	Speaker	Hiroshi Shimoda, Junko Mizuno, Kenzo Yonemitsu, Nao Nagata, Shohei Minami, Ryusei Kuwata, Ai Takano, Kazuo Suzuki, Ken Maeda. "Prevalence of tick-borne viruses among ticks in Japan"The 64th Annual Meeting of the JSV (Hokkaido)	Japan

October 25–27, 2016	Speaker	Chang-Kweng Lim, Hiroko Ejiri, Haruhiko Isawa, Yukie Yamaguchi, Ryosuke Fujita, Mutsuyo Takayama-Ito, Ryuusei Kuwata, Daisuke Kobayashi, Madoka Horiya, Guillermo Posadas-Herrera, Itoe Iizuka-Shiota, Satsuki Kakiuchi, Yukie Katayama, Toshihiko Hayashi, Toshinori Sasaki, Shigeru Morikawa, Ken Maeda, Tetsuya Mizutani, Masayuki Saijo, Kyoko Sawabe. "Isolation and Characterization of Kabuto mountain virus, a novel tick-borne phlebovirus form Haemaphysalis flava in Japan" The 64th Annual Meeting of the JSV (Hokkaido)	Japan
November 22–24, 2015	Poster	Ryusei Kuwata, Hiroki Sugiyama, Chinami Hamasaki, Shohei Minami, Kenzo Yonemitsu, Dung Nguyen, Hiroshi Shimoda, Ken Maeda "Identification and characterization of a novel RNA virus isolated from mosquito" The 63th Annual Meeting of the JSV (Fukuoka)	Japan
November 22–24, 2015	Poster	Hiroshi Shimoda, Kenzo Yonemitsu, Ryusei Kuwata, Daisuke Hayasaka, Kentaro Yoshii, Ken Maeda"Tick-borne flavivirus infection in main island of Japan" The 63th Annual Meeting of the JSV (Fukuoka)	Japan
November 22–24, 2015	Speaker	Keita Matsuno, Hiroshi Shimoda, Shiho Torii, Qiu Yongjin, Williamson Brandi, Ryo Nakao, Masahiro Kajihara, Masatoshi Okamatsu, Yoshihiro Sakoda, Atsushi Okumura, Ayato Takada, Schwan Tom, Ken Maeda, Hideki Ebihara "Genetic divergence of phleboviruses newly identified in ticks collected in Japan, Zambia and the United States"The 63th Annual Meeting of the JSV (Fukuoka)	U.S.A.
November 22–24, 2015	Speaker	Lim Chang-Kweng, Hiroko Ejiri, Haruhiko Isawa, Ryuusei Kuwata, Daisuke Kobayashi, Yukie Yamaguchi, Mutsuyo Takayama-Ito, Hitomi Kinoshita, Sastuki Kakiuchi, Madoka Horiya, Akira Kotaki, Tomohiko Takasaki, Ken Maeda, Toshihiko Hayashi, Toshinori Sasaki, Chinami Hamasaki, Mustuo Kobayashi, Masayuki Saijo, Kyouko Sawabe"Characterization of Muko virus, a new distinct member of the species Great Island virus, isolated from ixodid ticks in Japan" The 63th Annual Meeting of the JSV (Fukuoka)	Japan
November 22–24, 2015	Poster	Ken Maeda, Chinami Hamasaki, Ryusei Kuwata, Kenzo Yonemitsu, Shohei Minami, Hiroshi Shimoda, Ai Takano, Kazuo Suzuki, Nobuyuki Shiranaga, Shigeru Morikawa "Epidemiology of severe fever with thrombocytopenia syndrome virus in animals (2014)" The 63th Annual Meeting of the JSV (Fukuoka)	Japan
December 22–24, 2016	Poster	Shigeru Morikawa, Masanobu Kimura, Yoshihiro Kaku, Park Eun Sil, Koich Imaoka, Masayuki Saijo, Ken Maeda. "Prevalence of severe fever with thrombocytopenia syndrome virus antibodies in wild Japanese deer" The 63th Annual Meeting of the JSV (Fukuoka)	Japan
November 22–24, 2015	Speaker	Manami Goto, Hiroshi Shimoda, Ken Maeda, Hiroki Maeda, Takeshi Hatta, Naotoshi Tsuji, Tetsuya Tanaka, Masami Mochizuki. "Experimental evaluation of Haemaphysalis longicornis tick as a potential biologic vector of Japanese encephalitis virus" The 63th Annual Meeting of the JSV (Fukuoka)	Japan
August 11, 2015	Speaker	Hiroshi Shimoda and Ken Maeda. Tick-borne flavivirus infection in Japan. Annual International Conference on Diseases in Nature Communicable to Man (INCDNCM)Rocky Mountain Laboratories, Hamilton, Montana, USA	Japan
August 11, 2015	Speaker	Shimoda Hiroshi[1], Chinami Hamasaki[1], Ryusei Kuwata[1], Shigeru Morikawa[2], Ken Maeda[1] "Severe fever with thrombocytopenia syndrome virus infection among wild and companion animals in Japan." Annual International Conference on Diseases in Nature Communicable to Man (INCDNCM) Rocky Mountain Laboratories, Hamilton, Montana, USA	Japan
August 18, 2015	Speaker	Shimoda H, Kuwata R, Takano A, Maeda K. "Surveillance of Flavivirus Infection in Thailand." International Joint Seminar of New Core to Core Program A. Thailand	Japan
37	Total		

Lists of Achievements and Implemented Activities

3. Workshops, Seminars, Symposia and Other Events (Organized by the Project)

Event duration	Name of Organizer	Title of the Event	Location (Country, City, Venue)	Number of Participants (Including Team Members)	Overview
September 2, 2018	Ken Maeda	e-ASIA Project Meeting	Thailand, Bangkok, Kasetsart University	18	
March 25, 2016	Ken Maeda	Kick-off meeting of e-ASIA program "An integrated research for the development of a scheme to control emerging vector-borne viral diseases in Asia"	Japan, Yamaguchi, Yamaguchi University	25	

2 Total

Lists of Achievements and Implemented Activities

4. Record of Research Exchanges

Date of Departure	Date of Return	Last Name & First Name	Country of Affiliation	Affiliation	Position	Exchange Destination (Country, City, Research Organization etc)	Description of Exchange Content/Purpose	Duration of Exchange (autocompleted)
May 29,2015	4-Jun-15	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	6
July 20,2015	July 30,2015	Ken Maeda	Japan	Yamaguchi University	Professor	Bogor Agricultural University Indonesia	Research	11
July 26,2015	July 30,2015	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral	Central Mindanao University	Research	5
August 7,2015	August 13,2015	Hiroshi Shimoda	Japan	Yamaguchi University	Associate professor	NIH	Research	7
August 15,2015	August 21,2015	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	7
October 1,2015	October 4,2015	Kenzo Yonemitsu	Japan	Yamaguchi University	PhD student	Bogor Agricultural University Indonesia	Research	4
October 1,2015	October 4,2015	Shohei Minami	Japan	Yamaguchi University	PhD student	Bogor Agricultural University Indonesia	Research	4
November 8,2015	November 12,2015	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	5
November 8,2015	November 13,2015	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Central Mindanao University	Research	6
February 12,2016	February 21,2016	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	10
February 20,2016	February 27,2016	Hiroshi Shimoda	Japan	Yamaguchi University	Associate professor	Province of Pangasinan	Research	8
March 22,2016	March 27,2016	Hideki Ebihara	U.S.A.	NIH	Chief	Yamaguchi University	Kick-off meeting and discussion	2
March 22,2016	March 27,2016	LUZVIMINDA TADEJ	Philippines	CMU	Vice president	Yamaguchi University	Kick-off meeting and discussion	2
March 22,2016	March 27,2016	EMMANUEL TUGBANG	Philippines	CMU	Director	Yamaguchi University	Kick-off meeting and discussion	2
March 22,2016	March 27,2016	ALAN PAYOT DARGA	Philippines	CMU	Dean	Yamaguchi University	Kick-off meeting and discussion	2
March 22,2016	March 27,2016	Jose Alexander C	Philippines	CMU	Professor	Yamaguchi University	Kick-off meeting and discussion	2
March 23,2016	March 26,2016	Upik Kesumawati	Indonesia	IPB	Professor	Yamaguchi University	Kick-off meeting and discussion	2
March 23,2016	March 26,2016	Agus Setiyono	Indonesia	IPB	Professor	Yamaguchi University	Kick-off meeting and discussion	2
March 24,2016	March 26,2016	Worawut Rerkamnu	Thailand	Kasetsart University	Dean	Yamaguchi University	Kick-off meeting and discussion	2

March 24,2016	March 26,2016	Noppadol Prasert	Thailand	Kasetsart University	Lecturer	Yamaguchi University	Kick-off meeting and discussion	2
March 24,2016	March 26,2016	Srihadi Agungpriyono	Indonesia	IPB	Dean	Yamaguchi University	Kick-off meeting and discussion	2
June 19,2016	June 25,2016	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Bogor Agricultural University Indonesia	Research	7
July 2,2016	July 10,2016	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	9
September 12,2016	September 17,2016	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Kasetsart University, Bangkok	Research	6
September 12,2016	September 17,2016	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	6
November 13,2016	November19,2016	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	7
November 15,2016	November 19,2016	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Kasetsart University, Bangkok	Research	5
January 9,2017	February 1,2017	Warunee Buadok	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21
January 9,2017	February 1,2017	Siriwan Khomkrajang	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21
January 9,2017	February 1,2017	Teeraporn Srinivat	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21
January 9,2017	February 1,2017	Nutcha Nuansri	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21
January 9,2017	February 1,2017	Thanmaporn Phichitrasilp	Thailand	Kasetsart University	Assistant professor	Yamaguchi University	Research	21
March 11,2017	March 16,2017	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	6
March 11,2017	March 19,2017	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Central Mindanao University	Research	9
April 24,2017	April 29,2017	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	6
April 30,2017	May 20,2017	SPRIYONO	Japan	Yamaguchi University	PhD student	Bogor Agricultural University Indonesia	Research	21
May 17,2017	May 24,2017	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Bogor Agricultural University Indonesia	Research	8
August 15,2017	August 22,2017	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	8
August 16,2017	August 22,2017	Kenzo Yonemitsu	Japan	Yamaguchi University	PhD student	Kasetsart University, Bangkok	Research	7
August 16,2017	August 22,2017	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Kasetsart University, Bangkok	Research	7
September 30,2017	October 30,2017	SUPRIYONO	Japan	Yamaguchi University	PhD student	Bogor Agricultural University Indonesia	Research	31
October 5,2017	November 3,2017	Thanmaporn Phichitrasilp	Thailand	Kasetsart University	Assistant professor	Yamaguchi University	Research	21
October 5,2017	October 27,2017	Khwankamon Rattanatumhi	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21
October 5,2017	October 27,2017	Juthapron Pavinai	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21
October 5,2017	October 27,2017	Nattakarn Naimon	Thailand	Kasetsart University	Student	Yamaguchi University	Research	21

October 22,2017	Nobenber 7,2017	NGO THUY BAO TRN	Japan	Yamaguchi University	PhD student	SubDepartment of Animal Health, Vietnam	Research	17
October 15,2017	October 21,2017	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Bogor Agricultural University Indonesia	Research	7
October 29,2017	November 4,2017	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	SubDepartment of Animal Health, Vietnam	Research	7
November 1,2017	November 4,2017	Ken Maeda	Japan	Yamaguchi University	Professor	SubDepartment of Animal Health, Vietnam	Research	4
December 15,2017	December 16,2017	Kenzo Yonemitsu	Japan	Yamaguchi University	PhD student	Bogor Agricultural University Indonesia	Research	2
February 26,2018	March 9,2018	Ai Takano	Japan	Yamaguchi University	Associate professor	Gadjah Mada University, Bogor Agricultural University Indonesia	Research	12
March 4,2018	March 15,2018	Shohei Minami	Japan	Yamaguchi University	PhD student	Kasetsart University, Bangkok	Research	12
March 4,2018	March 15,2018	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Kasetsart University, Bangkok	Research	12
March 6,2018	March 10,2018	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	5
March 20,2018	March 30,2018	Ryusei Kuwata	Japan	Yamaguchi University	Postdoctoral researcher	Central Mindanao University	Research	11
March 20,2018	March 30,2018	Hiroshi Shimoda	Japan	Yamaguchi University	Associate professor	Central Mindanao University	Research	11
March 20,2018	March 30,2018	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	11
April 18,2018	April 21,2018	Ken Maeda	Japan	Yamaguchi University	Professor	Central Mindanao University	Research	4
April 25,2018	April 28,2018	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	4
July 16,2018	August 6,2018	SUPRIYONO	Japan	Yamaguchi University	PhD student	Bogor Agricultural University Indonesia	Research	22
September 1,2018	September 6,2018	Ken Maeda	Japan	Yamaguchi University	Professor	Kasetsart University, Bangkok	Research	6
September 15,2018	September 20,2018	Kenzo Yonemitsu	Japan	Yamaguchi University	PhD student	Kasetsart University, Bangkok	Research	6
September 15,2018	September 20,2018	Hiroshi Shimoda	Japan	Yamaguchi University	Associate professor	Kasetsart University, Bangkok	Research	6

Total (Person)	63	Total (Persond-day)	584

Lists of Achievements and Implemented Activities

5. Patent Applications

5. 1 Independent Applications by Single Team

Application Number	Name of Patent/Patent Name	Application Date	Patent Applicants (Fill in All Members)	Publication Number (leave blank if unpublished)	Inventor	Country of Application	Registration Number (leave blank if unregistered)	Country Name of the Team

0 Total (Number of Application)

0 Total (Number of Registration)

5. 2 Joint Applications

Application Number	Name of Patent/Patent Name	Application Date	Patent Applicants (Fill in All Members)	Publication Number (leave blank if unpublished)	Inventor	Country of Application	Registration Number (leave blank if unregistered)
WO20xx-xxxxxx		January 21, 2016	○○ Univ、Univ.of xx	WO/2016/xxxxxx	○○○○、○○・○○	PCT	WO20xx-xxxxxx (20xx.xx.xx)

0 Total (Number of Application)

0 Total (Number of Registration)

Lists of Achievements and Implemented Activities

6. Awards

Date of Award	Name of Award	Recipient	Remarks	Country Name of the Team
2017	JVMS Award	Shimoda H, VAN Nguyen D, Yonemitsu K, Minami S, Nagata N, Hara N, Kuwata R, Murakami S, Kodera Y, Takeda T, Yoshikawa Y, Horimoto T, Maeda K.	Best paper in 2017	Japan
February, 2017	Best Oral Presentation	Nao Nagata	The 8th Joint Symposium of Veterinary Research among Universities of Veterinary Medicine in east Asia	Japan
July, 2016	Best Oral Presentation	Nao Nagata	33rd Chugoku-Shikoku Meeting for Virology	Japan

3 Total