

**e-ASIA Joint Research Program (the e-ASIA JRP)
Research Cooperation
in the field of “Materials”
on the topic of “Innovative Materials”
8th Joint Call for Proposals to be submitted by 14th May 2019**

The e-ASIA Joint Research Program (hereinafter referred to as the “e-ASIA JRP”) aims to develop a vibrant and collaborative research community in Science and Technology, to promote innovation in the East Asian region, and to contribute to the region’s economic development. As part of the program, the following Member Organizations and of the e-ASIA JRP have agreed to implement a joint call for proposals of multilateral cooperative research activities.

Participating Member Organizations (listed in alphabetical order):

- 1) Indonesia: Ministry of Research, Technology and Higher Education (RISTEKDIKTI)
- 2) Japan: Japan Science and Technology Agency (JST)
- 3) Lao PDR: Ministry of Science and Technology (MOST)
- 4) Philippines: Department of Science and Technology (DOST-PCIEERD)
- 5) Russia: Russian Foundation for Basic Research (RFBR)
- 6) Thailand: National Science and Technology Development Agency (NSTDA)
- 7) Vietnam: Ministry of Science and Technology (MOST)

I. Aim of Joint Call and Research Area

The aim of the joint call is not only to contribute to the development of regional science but also to address the needs in East Asia through multilateral collaboration. The e-ASIA JRP, therefore, invites research proposals that focus on Innovative Materials:

Worldwide, materials are seen as a priority for innovation but also as a source of competition and advantage. There are the so-called “strategic materials” currently believed to be in short or constrained supply, which has the potential for a “circular economy in which products and systems are designed from the outset with the intention that the materials could be reconfigured for reuse at the end of

their life cycle¹.

i) Structural Materials

Development of engineering materials for applications on transportation and aircraft industry, power generation, and industrial equipment²³:

- Polymers and Thermoplastic Fiber-reinforced Plastics: Materials that have excellent quality, high toughness, low cost, excellent heat and impact resistance, and ultra lightweight
- New Alloys: Heat-resistant alloys, intermetallic compounds, and non-ferrous metals with high performance, good formability, improved balance between strength and ductility, and low cost. Applications include vehicle weight reduction, energy production, compressors, and turbine blades.
- Ceramics Coatings: Barriers for heat resistance and protection from harsh environment to reduce carbon emissions and improve fuel efficiency
- Joining Technology: Making strong and durable connections for structural materials via welding, brazing, adhesive bonding, mechanical joining, diffusion bonding, solid-phase bonding, and special processes
- Materials Integration: Use of computational facilities for the reduction of development time and maintenance cost, optimization of materials selection, and prediction of materials performance

ii) Adhesives

The aerospace industry had long been a leader in the adoption of new materials, pioneering the use of lightweight metals such as aluminum and of composites. For new uses of composite materials within the industry, much of the current emphasis is on joining technologies, with developments in adhesives enabling a cut to be made in the numbers of fasteners, saving weight and need for parts. Fewer fasteners then meant that structures could have thinner skins, saving more weight. It needed confidence that the joints created would be reliably

¹ Innovation in Materials. Royal Academy of Engineering. 2014. Prince Philip House 3 Carlton House Terrace London SW1Y5DG

² Cross-ministerial Strategic Innovation Promotion Program. "Structural Materials for Innovation". 2016. Accessed through https://www.jst.go.jp/sip/dl/k03/jst_pamphlet_english.pdf

³ Innovative Structural Materials Association. "Research and Development". Accessed through <http://isma.jp/en/provision.html#01>

strong and this came from automated surface preparation and analysis and from devising a consistent method for applying the adhesive; it also required systems and tools for inspecting the joints and for carrying out structural analysis¹.

iii) Smart Polymers

The characteristic feature that actually makes these polymers “smart” is their ability to respond to very slight changes in the surrounding environment. The uniqueness of these materials lies not only in the fast microscopic changes occurring in their structure but also these transitions being reversible. The environmental trigger behind these transitions can be either change in temperature or pH shift, increase in ionic strength, presence of certain metabolic chemicals, addition of an oppositely charged polymer and polycation polyanion complex formation, changes in electromagnetic field, light or radiation forces.⁴

These materials will provide a variety of applications for surface modifications, chemosensors, shape-memory materials, (bio)nanocomposites, hydrogels, self-healing materials, tissue engineering, biomedical system, colloid stabilization, and water remediation.⁵

iv) Additive Manufacturing

Additive manufacturing is seen as a crucial component for a country’s readiness towards Industry 4.0. The benefits are the ability to make structures, features and shapes that cannot be made by conventional manufacturing techniques and the potential to take advantage of different material properties from new formulations of original materials. The range of materials that can be applied using additive manufacturing is expanding, now taking in glass, ceramics and even elastomers¹.

⁴ International Journal of Drug Development and Research. “Smart Polymers: Innovations in Novel Drug Delivery”. 2011. Accessed through <http://www.ijddr.in/drug-development/smart-polymers-innovations-in-novel-drug-delivery.php?aid=5621>

⁵ MDPI call for manuscripts 2018. Smart Polymers Special Edition. Accessed through https://www.mdpi.com/journal/polymers/special_issues/smart_polymers

v) Materials for Climate Change Mitigation

The global environment has been continuously dealing with climate change, an international issue that needs to be addressed without compromising economic growth. Causes of climate change range from radioactive waste, heavy metal waste from mining, oil spills, to greenhouse gasses which enhance global warming. Due to the increasing presence of these pollutants, collaborative efforts are directed towards developing methods to ameliorate the effects, as well as methods to enhance detection and sensitivity. As such, several interesting approaches are currently being explored like the use of nanomaterials for reduction of greenhouse gases through carbon capture and storage, water purification, and new applications (detectors and sensors of toxic heavy metal ions). Furthermore, applications such as renewable energy sources, clean energy alternatives, high-efficiency vehicles and materials that could reduce energy consumption are being developed to safeguard the environment.⁶⁷⁸

vi) Electronics and Spintronics

Electronics deals with the engineering, physics, and applications of electron flow and control. In the past years, there have been breakthroughs that shaped the society. Trends continue to change and innovations keep getting better. The following are some of the topics that are seen in the trend for the following years -- augmented reality, machine learning, artificial intelligence, internet of things, smart places, and electronics that are flexible, printed, transparent, or organic.

Spintronics is the usage of a basic property of particles known as spin for information planning. From various perspectives, spintronics is undifferentiated from contraptions, which rather uses the electrical charge on an electron. Passing on information in both the charge and spin of an electron perhaps offers

⁶ World Economic Forum. "5 Tech Innovations That Could Save Us From Climate Change". 2017. Accessed through <https://www.weforum.org/agenda/2017/01/tech-innovations-save-us-from-climate-change/>

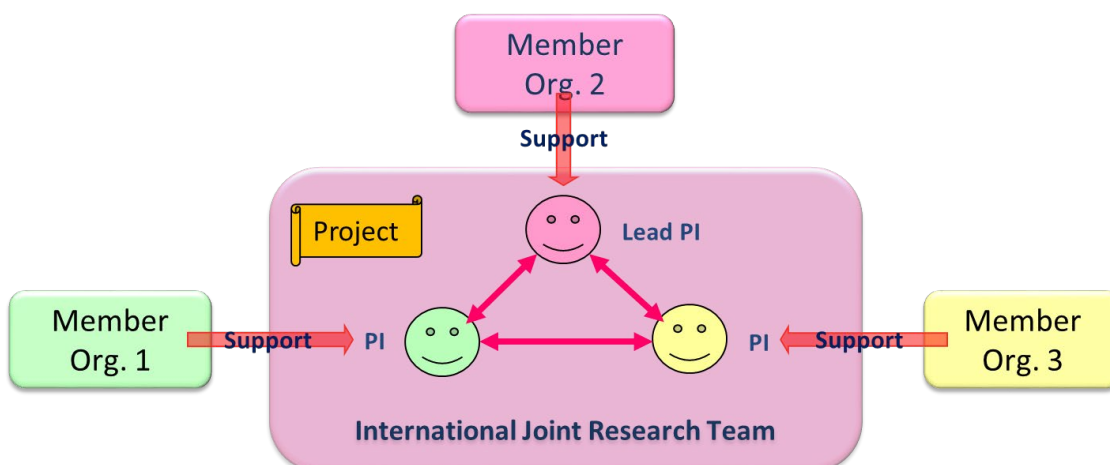
⁷ Materials for Environmental Remediation. International Union of Pure and Applied Chemistry (IUPAC). <https://iupac.org/materialschemistryedu/environmental/materials-for-environmental-remediation/>

⁸ Chemistry: The Science Behind Sustainability. American Chemistry Council. <https://www.americanchemistry.com/Sustainability/Healthy-Climate.html>

contraptions with more imperative contrasts of handiness. Researchable areas include intrinsic spin, magnetic moment, solid-state devices, magneto-electronics, metal-based devices and spintronic-logic devices.⁹

II. Support/ Funding Modality

In principle, each Member Organization will support its own country’s researchers in a selected research project in this joint call with the type of support defined as “Funding Modality” in the following table below. The duration of a selected research project will be three years (36 months), in total, from the start date. Details of conditions of support will vary by Member Organization. Applicants shall refer to the Appendix for each Member Organization’s rules and regulations.



Participating Member Organizations and Funding Modality

| Participating Member Organizations and Guest Partner | Funding Modality |
|--|--|
| (1) RISTEKDIKTI(Indonesia) | <u>New*</u> (Added on May 10), In-kind Requires to apply to domestic funding program to seek “New” funding from RISTEKDIKTI |

⁹ 23rd International Conference on Advanced Materials and Nanotechnology, 2019. <https://advancedmaterials.conferenceseries.com/events-list/spintronics>. Accessed on October 10, 2018.

| Participating Member Organizations and Guest Partner | Funding Modality |
|---|-------------------------|
| (2) JST(Japan) | New |
| (3) MOST(Lao PDR) | In-kind |
| (4) DOST-PCIEERD (Philippines) | New, In-kind |
| (5) RFBR (Russia) | New |
| (6) NSTDA (Thailand) | New |
| (7) MOST (Vietnam) | New, In-kind |

New: Each Member Organization will support a selected project by new funding

Re-budgeting: Funds already allocated to an existing project by each Member Organization will be reallocated to the e-ASIA JRP

In-kind: Each Member Organization of his/her country does not provide budget. A researcher participating in a selected project will use funds that are already available, but no additional fund will be provided by each Member Organization from his/her country. Conditions regarding the number of countries that can participate on an “in-kind” basis in one research project will vary by country. In principle, at least one country must participate via “new” or “re-budgeting” funding modality. In other words, proposals cannot be accepted if all the applicants intend to participate through an “in-kind” basis.

III. Application

In addition to the following general requirements, there are specific rules clarified by each Member Organization (see Appendix for further information).

III-1. Applicant/ Project Consortium

A project consortium must be consisted of at least three eligible research teams from at least three different participating countries listed above.

Each research team shall be led by a Principal Investigator (PI), and a consortium shall be led by a Lead Principal Investigator (Lead PI) specified among the PIs.

The Lead PI will be responsible for running and managing the project. The Lead

PI will be the contact point with the e-ASIA JRP Secretariat on behalf of the whole consortium and is responsible for the administrative management of the complete project, should it be awarded supporting. In addition, the Lead PI is responsible for leading the project activities at his/her own institution. The Lead PI must be affiliated with an institution situated in one of the participating countries in this call.

All PIs must fulfil their respective domestic eligibility rules for research application. Researchers from industry are encouraged to participate in the joint collaboration in accordance with domestic eligibility rules. PIs should contact the person noted in Section VI for information on their respective domestic eligibility rules.

III-2. Proposal Submission

Proposals must be submitted from the Lead PI by e-mail to the e-ASIA JRP Secretariat at the e-mail address specified below. Applications shall be written in English.

Deadline for Submission:

17:00 (Thai Standard Time, UTC+7) 14th May 2019

Please submit the proposal to:



Yoshihide Kobayashi (Mr.)

e-ASIA JRP Secretariat

E-mail: easia_secretariat@jst.go.jp

Note1: The e-ASIA JRP Secretariat will send a confirmation email to the Lead PI to confirm receipt of his/her proposal. In case the Lead PI does not receive a confirmation e-mail from the e-ASIA JRP Secretariat within one week, they should contact the e-ASIA JRP Secretariat at the address above. The e-ASIA JRP Secretariat does not assume any responsibility for delay or error in e-mail delivery.

Note2: Application forms sent by any method other than e-mail, such as post, fax or telex will be rejected.

< Important Notice to ALL PIs >

Make sure to submit all necessary application documents requested by each Member Organization of your country, in addition to the application to the e-ASIA JRP Secretariat (submitted by Lead PI only), because each Member Organization may request applicants of its country to submit another form of proposals with another deadline date.

For further requirements by each Member Organization, please refer to the Appendix or consult the person noted in Section VI.

The proposal shall include:

- a) Project description including how the collaboration will be carried out, with clear statements of what roles each country's researchers will play respectively in the project;
- b) Description of the expected outcomes of the proposed project, scientifically as well as in terms of relevance for industry and society;
- c) Description of the ongoing activities and specific advantages of each group respectively, which form the basis for the proposed joint project;
- d) Description of the expected value added from the proposed joint project, including how the competence, technology and other resources in each group complement each other;
- e) Description of how the project is expected to help strengthen multilateral research collaboration over the longer term;
- f) Description of the expected value added from the multidisciplinary approach in the proposed joint project; and
- g) Description of how the proposed joint project interacts with or impacts other comparable activities worldwide.

III-3. Application Forms

Researchers should prepare the following application (proposal) forms in English ("E").

For further requirements by each Member Organization, researchers shall refer to the Appendix or shall consult each Member Organization of his/her country.

Form 1E Application outline (title of cooperative research project, names of PIs, cooperative research period)

- Form 2E Summary of the Project
- Form 3E Information on the PIs (their CVs*)
- Form 4E List of individuals committed to the cooperative research project in each country
- Form 5E Description of the cooperative research project including the points stated above.
- Form 6E Research Networking Plan
- Form 7E Plan to Nurture Early Career Researchers
- Form 8E Budget plan for the project
- Form 9E Research infrastructures and funds from other sources

** The description of Curriculum Vitae (CV) from each PI shall include basic information on education, past and present positions, membership of relevant organizations/associations and a publication list in the past 5 years.*

In addition to the documents above, all projects must comply with ethical review and requirements of each Member Organization, especially for research activities related to human and animal subjects. PIs shall refer to the Appendix for each Member Organization's ethical requirement.

IV. Evaluation

IV-1. Evaluation Process

A proposal will be evaluated at each relevant Member Organization of the project consortium, according to the evaluation criteria clarified in the following subsection.

Based on the results of the evaluation conducted at each Member Organization, a final decision will be made at the joint panel meeting among the participating Member Organizations, followed by approval at the e-ASIA JRP Board Meeting.

IV-2. Evaluation Criteria

Proposals will be evaluated according to the following common e-ASIA JRP evaluation criteria, incorporated with evaluation criteria clarified by each Member Organization. For the evaluation criteria clarified by each Member Organization, please refer to the respective Appendix.

1) Regional Relevance of the Research

The research activity should contribute to:

- The advancement of scientific discovery;
- The development of science and technology in the region; and
- The resolution of significant relevant issues across the region.

2) Mutual Benefits of the Joint Research

Activities of mutual benefit to the collaborators and their institutions are desirable. Mutually beneficial in the sense that the projects utilize unique opportunities the e-ASIA JRP will provide that could not be achieved either through bilateral or individual research but only through multilateral cooperation.

3) Effectiveness of Exchange

The project should:

- Contain activities to nurture early career researchers through research activities;
- Contain activities to engage female researchers where strengthening capacity is needed; and
- Enhance research capacity in the region.

IV-3. Notification of the Final Decision

The Lead PI will be notified the final decision by the e-ASIA JRP Secretariat as soon as the final decision is taken and approved by all Member Organizations in the e-ASIA JRP. (Approximate implementation of the notification: End of November 2019)

V. Project Implementation

Project reporting will be in accordance with the respective funding agency's rules. Please contact respective Member Organizations for more details.

In addition to the funding agency's requirements, the consortia are expected to deliver Progress reports and Final reports to the e-ASIA JRP Secretariat, in English, including a description of their collaboration and a publishable summary of the project status. The progress and final reports will be reviewed by the Board and Scientific Advisory Council. It is also encouraged that the project proactively disseminates its achievements to the public.

V-1. Progress Report

In the middle of research period (i.e., after one and a half year), the lead PI shall promptly develop and submit an integrated progress report to the e-ASIA JRP Secretariat on the status of the joint research.

V-2. Final Report

A final report shall be developed and submitted by the Lead PI to the e-ASIA JRP Secretariat within two months after the completion of the joint research period.

V-3. Others

All the researchers/research institutions organizing a consortium are strongly recommended to conclude a Collaborative Research Agreement (hereinafter referred to as “CRA”) to assure optimal understanding and coordination among the collaborating scientists working on each project before project starts. CRA should, with due respect to the researchers’ institutions and the funding agencies’ intellectual property and data handling policy, include the treatment of intellectual property rights, handling of confidential information, publication of research results, warranty and indemnification, and access to and transfer of the bio-resources. Applicants shall refer to the Appendix for each Member Organization’s requirement.

VI. Contact information

Applicants should contact the following for information on each Member Organization’s eligibility rules or support conditions:

Also please refer to the Appendix for information of each Member Organization.

| Country: Member Organization | Contact Point |
|--|---|
| (1) Indonesia: Ministry of Research, Technology and Higher Education (RISTEKDIKTI) | Ms. Dinny Afifi Elfinur Tel: +62-21-3169782, +62-21-3169684 E-mail: dinnyafifi@ristekdikti.go.id Mr. Adhi Indra Hermanu/ Ms. Anggun Amalia Fibriyanti Tel: +62-21-3169119 e-mail: manoe@ristekdikti.go.id anggunamalia11@gmail.com |
| (2) Japan: Japan Science and Technology Agency (JST) | Ms. Izumi Tsune, Mr. Takashi Kawabe, Ms. Shoko Hirakawa |

| | |
|---|--|
| | Tel:+81 (0)3-5214-7375 E-mail: easiajrp@jst.go.jp |
| (3) Lao PDR: Ministry of Science and Technology (MOST) | Mr. Phouthanouthong SAYSOMBATH Tel: +856 21 213470-132 E-mail: pxaysombath@gmail.com |
| (4) Philippines: Department of Science and Technology – Philippine Council for Industry, Energy and Emerging Technology (PCIEERD) | Ms. Edna C. Nacienceno Tel: (632) 837-2071 local 2106 E-mail: pcieerd@pcieerd.dost.gov.ph |
| (5) Russia: Russian Foundation for Basic Research (RFBR) | Mr. Yaroslav Sorokotyaga, Mr. Denis Rudik Tel: +7 499 941 0196 E-mail: ysorokot@rfbr.ru , rudik@rfbr.ru |
| (6) Thailand: National Science and Technology Development Agency (NSTDA) | Ms. Jirawadee Matoon Tel: +66 2117 6932 E-mail: jirawadee.matoon@nstda.or.th |
| (7) Vietnam: Ministry of Science and Technology (MOST) | Ms. Bui Thi Thu Lan Tel: (+84 4) 3943 9192 E-mail: btlan@most.gov.vn |

Applicants should contact the following for general inquiries:



Yoshihide Kobayashi (Mr.)
e-ASIA JRP Secretariat / Japan Science and Technology Agency
Room 218 Innovation Cluster1 Building
National Science and Technology Development Agency (NSTDA)
111 Thailand Science Park, Phahonyothin Road
Khlong Nueng, Khlong Luang, Pathum Thani 12120 THAILAND
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**e-ASIA Joint Research Program (the e-ASIA JRP)
Research Cooperation
in the field of “Materials”
on the topic of “Innovative Materials”
8th Joint Call for Proposals to be submitted by 14th May 2019**

Information about each Member Organization (alphabetical order by country)

- 1) Indonesia: Ministry of Research, Technology and Higher Education (RISTEKDIKTI)..... 14
- 2) Japan: Japan Science and Technology Agency (JST)..... 15
- 3) Lao PDR: Ministry of Science and Technology (MOST) 21
- 4) Philippines: Department of Science and Technology – Philippine Council for Industry, Energy and Emerging Technology (PCIEERD)..... 22
- 5) Russia: Russian Foundation for Basic Research (RFBR) 26
- 6) Thailand: National Science and Technology Development Agency (NSTDA) 29
- 7) Vietnam: Ministry of Science and Technology (MOST)..... 31

1) Indonesia: Ministry of Research, Technology and Higher Education (RISTEKDIKTI)

Indonesian researchers who seek funding from RISTEKDIKTI need to apply for “International Collaboration (KLN)”, RISTEKDIKTI’s competitive funds. Referring to the guideline/procedure of KLN Program, the Indonesian Principle Investigator (PI) **must be** from Higher Education Institutions/University, other Research Institutions may join the project as Co-PI. To get the funding, proposal **must be selected** as awardee of the e-Asia JRP. Once the awardee list being announced by the e-ASIA secretariat, Indonesian PI with selected proposal/s has to contact PIC of Ristekdikti for the proposal submission process.

Indonesian researchers must refer to the Guidance of KLN (**Panduan XII Simlitabmas**) to obtain research funding. The amount of funds will be determined through the evaluation process by the reviewer assigned by Ristekdikti. (Modified on May 10)

Contact Information



Ms. Dinny Afifi Elfinur
Division for Cooperation
Ministry of Research, Technology and Higher Education
Tel: +62-21-3169782, +62-21-3169684
E-mail: dinnyafifi@ristekdikti.go.id

Mr. Adhi Indra Hermanu/ Ms. Anggun Amalia Fibriyanti
Directorate Research and Community Engagement
Ministry of Research, Technology and Higher Education
Tel: +62-21-3169119
e-mail: manoe@ristekdikti.go.id anggunamalia11@gmail.com

2) Japan: Japan Science and Technology Agency (JST)

Japan-based applicants must complete all the requirements designated by JST. Information on additional requirements applied to Japan-based applicants are available at the official national call announcement on the JST website.

JST's official national call announcement:

https://www.jst.go.jp/inter/program/announce/announce_easia_jrp_8th.html

I. Eligibility for Japan-based applicants

- Any independent researcher personally affiliated with and actively conducting research at a domestic Japanese research institution (or who will fulfil this requirement by the start of the research project), regardless of nationality, is eligible to apply as a Principal Investigator.

Note: "Domestic Japanese research institution" in Japan refers to universities, independent administrative institutions, national/public testing and Research Institutions, specially authorized corporations, public - service corporations and enterprises, etc. that must satisfy predetermined requirements designated by Ministry of Education, Culture, Science and Technology (MEXT).

Japan-based researchers from industry are eligible to apply as a Principal Investigator in the joint research project in the Japan-based team.

- Early career researchers who completed his/her doctorate in the last 10 years are strongly encouraged to apply.

II. Support

II-1. Funding Modality

JST will support each Japanese team with a "new fund" up to 27 million Japanese Yen as direct cost for 36 months. The overhead cost of 30% of direct cost will be added separately. The budget for a project may differ each year, depending on the content of activities. The amounts will be adjusted each year due to the budgetary limitations for this program.

II-2. Expenditure/costs eligible for funding

This program is designed to support expenses related to cooperation by a Japan-based researcher with their counterparts, such as expenses for travel

and/or conducting seminars/symposia.

Funding provided within this call is intended to enhance the capacity of the applicants to collaborate. Funding will therefore be provided mainly in support of collaborative activities but may also cover some of the local research costs that are necessary for the collaboration. In principle, eligible direct costs are those costs directly necessary for accomplishing the research, indicated below. Please refer to the guidance documents available at the following link for further details of eligible direct costs: <https://www.jst.go.jp/inter/research/contract/contract.html> (in Japanese only).

1. Eligible Direct Costs:

- i) **Facilities, Equipment and Consumables:** costs of research equipment, spare parts, prototypes,
- ii) **Travel Costs:** travel costs and associated living expenses of the project members registered in the project plan, and travel costs of inviting external experts.
- iii) **Salaries and Honoraria:** salaries of the researchers, temporary staff, PhD students, post - docs, etc., who are hired for the research, and other costs such as honoraria for invited lecturers.
- iv) **Others:** costs for organizing meetings in Japan including rental costs for the venue, food & beverage (excluding alcohol) costs and other costs which are deemed to be necessary for organizing the event. Expenses for creating software, renting or leasing equipment, transporting equipment, etc.

2. Overhead cost shall be 30% of direct costs.

Note: Please refer to the following link for the provisions regarding indirect costs: <http://www8.cao.go.jp/cstp/compefund/shishin2.pdf> (in Japanese only).

II-3. Payments

Payments will be made according to a contract for commissioned research entered into between JST and a "Domestic Japanese Research Institution". The contract for commissioned research will be renewed each year over the cooperative research period. Since the contract is agreed on condition that all administrative procedures related to this project will be handled within the institution, the PI should consult with the department in charge at his/her

institution.

III. Application

Japanese applicants are required to complete necessary submission as specified below.

III-1. Submission of Application Forms (Form E1-E9) (from the Lead PI)

Proposals must be submitted by e-mail to the e-ASIA JRP Secretariat.

III-2. Additional Application Forms (For Japan-based applicants only)

In addition to the common Application Forms in English (Form E1-E9), Japan-based applicants are required to complete and submit additional application forms in Japanese (Forms 1J and 2J) to JST by “e-Rad” (<http://www.e-rad.go.jp/index.html>).

- **Forms 1J and 2J are available from the JST website:**
https://www.jst.go.jp/inter/program/announce/announce_easia_jrp_8th.html
(in Japanese only)

- **The deadline for the “e-Rad” submission:**
19:00 (Japan Standard Time) 14th May 2019

IV. Evaluation of Project Proposals

Independent Committees consisting of experts will evaluate all proposals. Based on the results of the evaluation, a common decision will be decided jointly among Member Organizations participating in the call regarding funding of the selected proposals.

IV-1. Evaluation Criteria

The following evaluation criteria, incorporated with the e-ASIA JRP evaluation criteria (see IV-2. Evaluation Criteria in the Call Guideline), will apply to each application:

i) **Conformity with Program Aims and Designated Research Fields**

The proposed activity shall conform to the aims of the program and the research

fields that the program designates. In addition, the applicants shall already have a good research foundation for their proposed activity.

ii) Capability of Principal Investigators

The principal investigators of collaborating countries shall have the insight or experience for pursuing the activity and the ability to manage the cooperation and reach the project goals during this program's period of support. The call aims to take into account the potential of early career researchers who have completed their doctorate in the last 10 years in this role.

iii) Effectiveness and Synergy of Co-operative Research Project

The proposed research activity shall be eminent, creative and at an internationally high level in an attempt to produce a significant impact on the development of future science and technology or to solve global and regional common issues or to create innovative technological seeds that can contribute to the creation of new industries in the future.

Moreover, proposed research activities that can be expected to create synergy through collaborative research with the counterpart institution will be preferred. Such synergy could be attained through, for example, the acquisition and/or application of knowledge, skill and/or know-how of the counterpart researcher.

iv) Validity of Research Plan

The sharing of research activities with the counterpart research institution and the planning of research expenses shall be adequate to realize the proposed research activity.

v) Effectiveness and Continuity of Exchange

Activities characterized by the following examples shall be involved to enhance sustainable research exchange and networking.

- Nurturing of researchers through human resource exchange.
- Sustainable development of research exchange with the counterpart countries initiated by this activity.
- Enhancing the research network between collaborating countries including researchers other than the research leader and members of this activity.
- Improving the presence of science and technology in Japan and the

counterpart country.

vi) Validity of Exchange Plan

The planning of exchange activities and their expenses with the counterpart research institute shall be adequate to realize the proposed research activity.

V. Project Implementation/Publications and Intellectual Property

Selected collaborative research projects in this call are expected to start in April 2020, but the schedule is subject to future adjustment due to budgetary conditions.

The PIs are obliged to publish research results obtained in the program with acknowledgement of the support received.

PIs supported in this call are required to conclude a Collaborative Research Agreement listing the rights and responsibilities of each project partner, and including regulations on the handling of Intellectual Property Rights. This Agreement shall be signed among the institutions participating in the project.

Scientific and technological outcomes and any other information derived from the collaborative activities supported in this call can be announced, published or commercially exploited with the agreement of all partners in a supported project and according to their national regulations as well as international agreements concerning intellectual property rights.

As for the contract between the Japanese institution and JST, it stipulates that Article 19 of the Industrial Technology Enhancement ACT (Japanese version of the Bayh-Dole Act) and Article 25 of the ACT on Protection of the Creation, Protection and Exploitation of Content (tentative translation) will be applied to all intellectual property rights belonging to the Japanese institution generated as a result of this project, and that these can be the properties of the institution with which the PI is affiliated.

VI. Reporting

VI-1. Progress Report to JST

At the end of each fiscal year, the Japanese PI shall promptly submit an annual progress report on the status of research exchange, and the institution with which the PI is affiliated shall promptly submit a financial report on research expenses to JST.

VI-2. Final Report to JST

After completion of the period of joint research, the Japanese PI shall submit within two months a final report on the results of the joint research. The final report shall include a general summary compiled jointly by all members of the Japanese research group.

The institution with which the PI is affiliated shall submit a financial report on research expenses within the same time frame.

VII. Contact Information



Dr. Takashi Kawabe, Ms. Izumi Tsune, Ms. Shoko Hirakawa

Department of International Affairs

Japan Science and Technology Agency (JST)

Tel: +81(0)3-5214-7375 Fax: +81(0)3-5214-7379

E-mail: easiajrp@jst.go.jp

3) Lao PDR: Ministry of Science and Technology (MOST)

Laotian researchers can participate in research projects only on an "in-kind" basis, as there will be no new or additional support available from the Lao PDR MOST.

Please consult the person in charge directly.



Mr. Phouthanouthong SAYSOMBATH
Deputy Director General of Planning and Cooperation
Ministry of Science and Technology (MOST)
Tel: +856 21 213470-132
E-mail: pxaysombath@gmail.com

4) Philippines: Department of Science and Technology – Philippine Council for Industry, Energy and Emerging Technology (PCIEERD)

In pursuit of cooperation in Science and Technology between the Department of Science and Technology (DOST) and other participating member organizations of the e-ASIA Joint Research Program, the DOST through the Philippine Council for Industry, Energy and Emerging Technology (DOST-PCIEERD) is calling for mutually beneficial and collaborative project proposals.

As a prerequisite, it is necessary that proponents coordinate with their counterpart/collaborator from the participating member countries with whom they will work with on the project.

Project proposals must fall under the following priority areas:

- Structural Materials (Polymers and Thermoplastic Fiber-reinforced Plastics, New Alloys, Ceramics Coatings, Joining Technology, Materials Integration)
- Adhesives
- Smart Polymers
- Additive Manufacturing
- Materials for Climate Change Mitigation
- Electronics and Spintronics

Eligibility for Philippine-based Applicants

The Principal Investigator:

- Must be a Filipino citizen, subject to applicable laws
- Shall submit documents/proof of the following, which shall include but not limited to: credentials/proof of capability, track record, and endorsement of his/her institution
- Must not have any existing accountability with DOST and its agencies particularly technical and financial reports

- Must not have pending administrative or criminal case involving financial transactions

Support

The DOST, through its Grants-in-Aid, will provide support to the researchers from the Philippines selected in this joint call. Said funding support shall be provided for 36 months of project implementation and shall be expended as allocated in the approved Project Line-item Budget. The *Revised Guidelines Governing the Grants-in-Aid Program of DOST* (DOST A.O. 009 Series of 2017) shall govern the cost listing, eligible budget items, and implementation of the project.

One to two (1-2) projects could be supported under this call. Budget range of US\$300,000 – 350,000 per project for 3 years, or in-kind shall be provided by DOST to support the collaborative projects.

Application

Interested parties may download the necessary forms at <http://pcieerd.dost.gov.ph/library/e-forms/call-for-proposal-forms>. Documents shall be submitted to PCIEERD at the following address:

Philippine Council for Industry, Energy, and Emerging
Technology Research and Development (DOST-PCIEERD)
4th and 5th Level Science Heritage Bldg.,
Science Community Complex,
Gen. Santos Avenue, Bicutan,
Taguig City 1631, Philippines

Deadline for submission of proposals is on **14 May 2019**.

Evaluation of Project Proposals

Proposals must be submitted to DOST-PCIEERD while their counterparts must submit the same proposal to their respective science ministries for separate review and evaluation. Only projects approved by all parties will be implemented under this cooperation scheme.

Philippine-based proposals shall be evaluated by the PCIEERD Technical Panel according to the following criteria, for final approval of the DOST Executive Committee as the funding agency:

- Scientific Excellence
- Mutual Advancement of Research
- Impact of Outcomes on Improving Quality of Life/ Contributing to Socio-Economic Development/ Solving Prevailing Social Issues
- Feasibility and Concreteness of the Research Plan and Expectation of its Advancing the Research
- Contribution to Fostering Young Researchers

Publications and IP

The consortium supported in this call shall enter into a Collaborative Research Agreement that includes regulations on Intellectual Property Rights and dissemination of scientific and technological outcomes derived from the collaboration.

As for the agreement between the Philippine institution and DOST, it is stipulated that all Intellectual Properties and Intellectual Property Rights shall be governed by Republic Act 10055 otherwise known as the "Philippine Technology Transfer Act of 2009", its Implementing Rules and Regulations, The DOST Administrative Order No. 004 s. 2015 or the DOST IP Policy and the PCIEERD Administrative Order No. 2015-123 s. 2015 or the Guidelines on the Disclosure and Protection of Intellectual Properties (IPs) Generated.

The project shall acknowledge DOST's support in relevant project-related activities and publications.

Reporting (Progress Report and Final Report)

Subject to the provisions of the DOST A.O. No. 009 Series of 2017, the implementing agency from the Philippines shall submit to DOST-PCIEERD the technical accomplishment report, financial report, and other pertinent documents in a quarterly basis. The terminal reports shall be submitted within three (3) months after the completion of the project.

Contact Information



DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE COUNCIL FOR INDUSTRY,
ENERGY AND EMERGING TECHNOLOGY
RESEARCH AND DEVELOPMENT

MS. EDNA C. NACIANCENO

Chief Science Research Specialist

Emerging Technology Development Division

DOST-PCIEERD

Tel: (632) 837-2071 local 2106

Fax: (632) 837-6154

Email: pcieerd@pcieerd.dost.gov.ph

5) Russia: Russian Foundation for Basic Research (RFBR)

The official national call announcement for Russia (RFBR) is published on the RFBR website:

http://www.rfbr.ru/rffi/ru/contest/n_812/o_2082176

I. Eligibility for Russian applicants

Who can apply:

- Any Russian citizen(s);
 - Foreign citizen(s) or apatride(s) holding a status of Russian Federation resident for tax purposes.
- thereafter - Russian researchers.

RFBR will fund only one Russian research team per each selected project. Russian research team may consist from 2 to 10 Russian researchers. Despite Russian researchers may have different affiliation, in case the project will be among selected for funding, RFBR grant award to Russian research team should be managed through only one Russian research performing legal entity. Therefore Russian researchers participating in a single project should agree beforehand through which legal entity they will manage grant award and appoint a person (Russian research team Leader) to be responsible for acting on behalf of Russian research team in communication with RFBR including management of grant award.

II. Support

Within each selected international consortium, funding of the participating researchers is provided by their respective national funding organization in accordance with their standard award terms and conditions. RFBR provides funding only for Russian research teams.

RFBR funding within this call will cover a three year period. The funding of each Russian research team may be expected between 2 500 000 – 4 000 000 roubles per each project implementation year. The number of supported projects will strongly depend on number of applications, quality of proposals, and

available budgets of RFBR and other e-Asia JRP Participating Member Organizations.

The participants of research projects should aim towards equal international collaboration, both in terms of workload and funds requested, involvement of early-career researchers in project implementation is encouraged.

Detailed list of eligible costs is stated in official national call announcement.

III. Application

Russian applicants should submit a national proposals to RFBR through KIAS system (<http://kias.rfbr.ru>) no later than 23:59 (Moscow time) 20 May 2019.

Please refer to national call announcement at

http://www.rfbr.ru/rffi/ru/contest/n_812/o_2082176 for more details and instructions on procedure.

IV. Evaluation of Project Proposals

All proposals will undergo evaluation by RFBR experts according to RFBR internal rules and procedures (published on www.rfbr.ru). After national evaluation is completed an international independent committee represented by e-Asia JRP Participating Member Organizations will review outcomes of national evaluations. Based on the results of the national evaluations, a common decision on list of selected projects will be jointly taken by e-Asia JRP Participating Member Organizations.

V. Contact Information

More details on application and funding procedures and on respecting deadlines are published in RFBR national call announcement at

http://www.rfbr.ru/rffi/ru/contest/n_812/o_2082176. If any issues are still have to be clarified, please address National Contact Points below for further details:



RUSSIAN
FOUNDATION
FOR BASIC
RESEARCH

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6) Thailand: National Science and Technology Development Agency (NSTDA)

I. Eligibility for Thai applicants

The applicants must be researchers and/or university professors/instructors who work in public research institute or university in Thailand, and are competent in conducting a research with international partners.

II. Support

The total budget for the Thai researcher over a full 3-year period is up to 5,000,000 THB. The budget for a project may differ each year, depending on the content of activities.

III. Evaluation of Project Proposals

Proposals will be peer-reviewed, and evaluated by a committee. The final selection will be done by the international selection committee of e-ASIA.

III.I Evaluation Criteria

To be funded, proposals must be internationally competitive. It should lead to the advancement of the research field, or novel applications or increase of research capacity.

Key evaluation criteria are:

- Significance and impact of the research
- Scientific Rationale: novelty, importance and timeliness of the research
- Design and feasibility of the project plan
- Partnership: including strength and clarity of collaborations and opportunities provided, quality of the project management structure proposed;
- Quality and suitability of the research environment and of the facilities;
- Ethical considerations and governance arrangements

Contact Information



Ms. Jirawadee Matoon
International Relation Officer
International Collaboration
National Science and Technology Development Agency
Tel: +66 2117 6932

E-mail: jirawadee.matoon@nstda.or.th

7) Vietnam: Ministry of Science and Technology (MOST)

Please kindly visit the website to get further information in details relating to the internal procedures of Viet Nam as followings: <http://www.most.gov.vn/>

The Vietnamese PI must finish the application form in Vietnamese template and send to MOST. For the “in-kind” projects, the Vietnamese applicants must send information to MOST for further internal procedures and notation.

Or please consult the person in charge directly:

Contact Information



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Head of Division
General Affairs and Multilateral Cooperation Division
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Ministry of Science and Technology (MOST)
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General inquiries



Yoshihide Kobayashi (Mr.)

e-ASIA JRP Secretariat / Japan Science and Technology Agency

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