

**Moonshot Research and Development Program**  
**Japan-US-Australia-India Joint Call for Proposals in FY 2024**  
**AI-ENGAGE (Advancing Innovations for Empowering NextGen AGriculturE)**  
**FY 2024**  
**Application Guidelines for Japan-based Researchers**

**I Overview**

The Japan Science and Technology Agency (JST), in cooperation with the National Science Foundation (NSF) of the United States, the Commonwealth Scientific and Industrial Research Organization (CSIRO) of Australia, and the Indian Council of Agricultural Research (ICAR) of India, has decided to support international collaborative research among researchers from the four countries. We are pleased to announce an open call for joint research proposals on AI-ENGAGE (Advancing Innovations for Empowering NextGen AGriculturE).

This call for proposals aligns with the Joint Statement from the QUAD Leaders' Summit, where the leaders of Japan, the United States, Australia and India endorsed support for joint research among the four countries to advance innovation in agriculture through emerging technologies.

**1 . Scope of Research**

Title of Program and Technical Lead	Scope of Research (Excerpted from NSF's Dear Colleague Letter*)
<p><b>AI-ENGAGE</b>  Advancing Innovations for Empowering NextGen AGriculturE</p> <p><b>Technical Lead</b>  CHIBA Kazuhiro (President, Tokyo University of Agriculture and Technology)</p>	<p>Joint research should advance the field(s) of artificial intelligence, robotics, sensing, and/or communications with applications to agriculture, particularly those that empower farmers to enhance productivity, sustainability, and resilience. Examples of potential topics for consideration under AI-ENGAGE include but are not limited to: Artificial intelligence-enabled crop planning and monitoring including for diseases and pests; crop improvement through image-based high throughput phenotyping and genotyping; farm supply chain management; robotics to improve efficiency of the farm workforce; data-driven agriculture risk information and management system; assessing, monitoring, and management of land and aquatic resources; etc.</p>

(Excerpt from NSF's Dear Colleague Letter\*)

By 2050, the world's population is anticipated to increase to an estimated 9.7 billion people, with corresponding increases in food demand and pressure on land and water resources. Many of the impacts of these trends will be strongly felt in the Indo-Pacific region, but so will the hope for meaningful solutions. By collaborating on cutting edge research and innovations in areas such as artificial intelligence, robotics, communications, and sensing through this Quad AI-ENGAGE effort, researchers collaborating across the diverse environments in Australia, India, Japan and the U.S. can help transform agricultural approaches to empower farmers everywhere to increase yield and resilience. By forming research networks that span Quad countries, ideas and best practices can be disseminated quickly to all Indo-Pacific nations resulting global impact on people, our economies, and our planet.

The goals of the AI-ENGAGE partnership initiative are to strengthen research collaboration among the Quad countries – Australia, India, Japan, and the U.S. and to increase the impact of critical technology research on people, our economies and in the Indo-Pacific region. The Quad countries are major research performing countries, but research collaborations among researchers in the four countries together have been limited to date. This partnership initiative provides for a multilateral arrangement to enable researchers to collaborate more effectively.

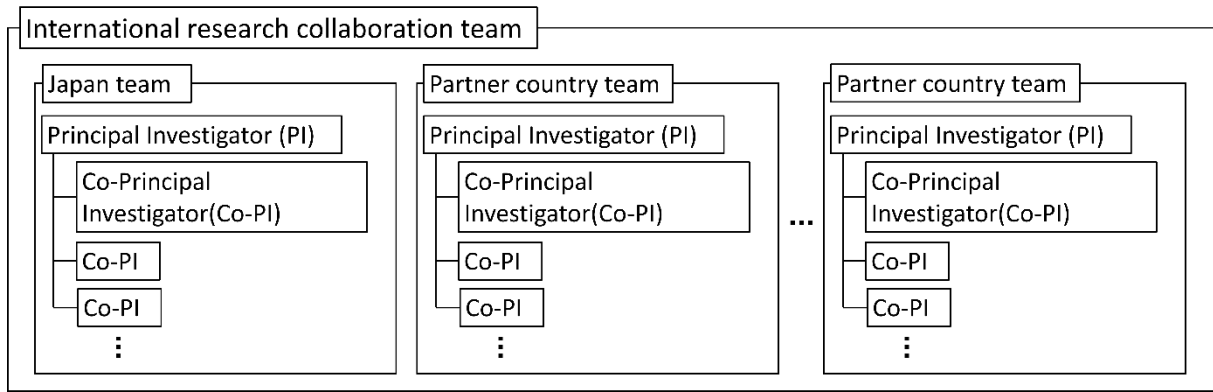
\*This call and review process of AI-ENGAGE is coordinated by NSF as the lead agency. Please double check NSF's Dear Colleague Letter for detailed instructions in addition to this guideline.

[Dear Colleague Letter \(DCL\)](#)

## **2. Eligibility**

International research collaboration teams consisting of teams from at least 3 countries from Japan, U.S., Australia and India may apply for this program. Each international research team must collaboratively prepare and submit one unified proposal. The organization of the research teams from each country must adhere to the specific requirements set by their respective agencies. The Japanese team should consist of a Principal Investigator (PI) and Co-Principal Investigators (Co-PIs) from the different research institutions.

※For detailed information about the management of Japan-side projects of AI-ENGAGE, please refer to Chapter 2 in 「[JST ムーンショット型研究開発事業 \(AI-ENGAGE\) 日本側応募者への応募にあたっての注意事項](#)」. If your proposal is adopted, your title will be changed to PI = Project Leader(PL), Co-PI = Co-Project Leader(Co-PL) for management purposes.



The international research collaboration team must consist of at least 3 countries from Japan, U.S., Australia and India. The research proposal must also be submitted to every funding agency involved in the project.

※Japan-side researchers can apply this call by forming the international collaboration team as follows;

- Japan team + U.S. team + Australia team + India team
- Japan team + U.S. team + Australia team
- Japan team + U.S. team + India team
- Japan team + Australia team + India team

In addition, the participating Japan-based researchers (PIs and Co-PIs) should be affiliated with universities, public institutions or private companies that have legal personality and activity bases in Japan.

### 3. Call Deadline (Japan Side)

**Thursday 23rd January 2025 at 5:00 p.m. (Japan Standard Time)**

**\*Please note that the deadline for submissions to NSF is 22nd January 2025 at 5:00 p.m.(Local Time)**

### 4. Anticipated number of awardees

5 – 7 collaborative international awards

### 5. Call Schedule (Tentative)

20th September 2024	Call for proposals open
23rd January 2025	Call for proposals deadline
January – March 2025	Evaluation and proposal selection
May 2025 (tentative)	Notification/announce of awardee
May 2025 (tentative)	Research commencement

## II Program Information

### 1. Level of Support

JST will provide research funds to the teams from Japan. NSF will support the U.S. teams, ICAR will support

the India teams, and CSIRO will support the Australia teams. For more information, please contact each agency.

If a proposal is adopted, the Japan research team will be awarded a maximum of 60 million JPY (including indirect costs) per proposal.

## **2 . Period of Support**

Research funded by JST is expected to receive support for a duration of up to 3 years. JST will fund the Japan research teams each fiscal year.

## **3 . Research Expenses**

### **( 1 ) Direct costs**

Direct research costs are expenses directly used for research purposes at the awarded research institution, and can be used for the following:

#### **1. Equipment costs (equipment and consumables)**

Expenses for purchasing new equipment and consumables.

#### **2. Travel costs**

In principle, travel costs incurred in accordance with the guidelines of the awarded research institution.

Travel expenses are applicable to travel directly related to the execution of the research, dissemination activities, etc.

#### **3. Personnel costs**

#### **4. Miscellaneous**

In addition to the items listed above, others such as those listed below are included as well:

a) Expenses for organizing and hosting events for the dissemination of research results

b) Outsourcing costs (excluding subcontracting)

c) Equipment leasing costs, transportation costs, for equipment used for the research project

d) Costs for patents, etc.

### **( 2 ) Indirect costs**

Indirect costs go directly to the awarded research institution for administrative purposes, which can be paid based on the following ratio respective to the direct costs:

Indirect cost is regarded, in principle, as 30 percent in comparison with the direct cost for universities and 10 percent for others (20 percent for medium - or small-sized companies only).

## **III Application Preparation and Submission**

### **1 . Application Documents**

The documents to be submitted by Japan-based PIs are as follows;

\*Please note that submission documents will be different depending on the countries involved in your international research collaboration team.

- For teams that include U.S. teams; Item 3 is required in addition to item 1 and 2.
- For teams that do not include U.S. teams; Items 4 is required in addition to item 1 and 2.

1. (Required for ALL Japan-based PIs) **(1 PDF file)**

Please fill out the [Japan-side Application Form](#) and submit it as a single PDF file.

- Project summary, the list of researchers in the Japan team and the budget plan of the Japan research team (in Japanese).
- Current and pending research funds awarded
- Compliance agreement document and check sheet

2. (Required for ALL Japan-based PIs) **(Register directly into e-Rad)**

Please register your information about budget plan, your affiliation, etc. to e-Rad.

3. **(Required if your international research collaboration team includes a U.S. team) (1 PDF file)**

Please provide copies of the application documents that will be submitted to the NSF by the U.S. team PI and submit it as a single PDF file. Please note that it should be identical to the one submitted by U.S. team PI. For more information about the documents required from the U.S. team PIs by NSF, please refer to the Dear Colleague Letter published by NSF.

[Dear Colleague Letter \(DCL\)](#)

For information on budget, Biographical Sketch of PI and Co-PI and information on Collaborators and Other Affiliations to be included in the Supplementary Document of the document submitted to NSF, please use the following forms below.

[Budget Plan](#)

[Budget Justification](#)

[Biographical Sketch](#)

[Other Personnel](#)

[Collaborators and Other Affiliations Template \(COA template\)](#)

4. **(Required if your international research collaboration team does not include a U.S. team) (1 PDF file + 1 Excel file)**

Proposals should be written in English following the [Guidelines of Common Format](#) and submit it as one PDF file. In addition, please submit the Collaborators and Other Affiliations Template, or COA template as a one Excel file. Please make sure that the teams from India and Australia submit documents to their respective funding agencies that are identical to the ones to be submitted to JST.

## 2. Application Submission

(1) The Japan-based Principal Investigators (PIs) must submit the application documents and register their application information to the Cross Ministerial R&D Management System (e-Rad). Please refer to the [e-Rad manual](#) for more detailed operation.

**23rd January 2025 at 5:00 p.m. (Japan Standard Time)**

e-Rad (<https://www.e-rad.go.jp/>)

✂It may take a while time to submit the proposal to e-rad, so please allow enough time for submission. If the proposal is submitted after the deadline, it will not be reviewed regardless of any reason.

( 2 ) PIs from other countries (the U.S., Australia, or India) will submit their application documents according to the requirements specified by their respective agencies. Please be sure to coordinate with your team members so that you can apply appropriately.

#### **IV Selection Process and Evaluation Criteria**

In this call for proposals, NSF, as the agreed and designated lead agency, will coordinate the selection process to ensure efficient management. The evaluation criteria can be found in [Dear Colleague Letter \(DCL\)](#) and [NSF Proposal & Award Policies & Procedures Guide \(PAPPG\)](#).

Proposals will be evaluated using the Merit Review Process by NSF based on the criteria listed below.

- Intellectual Merit: The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- Broader Impacts: The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to:
  - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

(Excerpt from PAPPG of NSF [https://nsf.gov-resources.nsf.gov/files/nsf24\\_1.pdf#page=110](https://nsf.gov-resources.nsf.gov/files/nsf24_1.pdf#page=110))

#### **V Notes**

Applicants for this call should pay particular attention to the following points.

##### **1 . The Responsibilities of JST-funded Research Organizations**

- ( 1 ) If the proposal is awarded, research organizations (including research representatives and research

collaborator research organizations) will conclude a research contract with JST and must follow the stipulations of this contract. Intellectual property rights such as patents derived from the research will in principle belong to the research organization, provided that the organization complies with Article 17 of the Industrial Technology Enhancement Act (Japanese equivalent of the Bayh-Dole Act) as stipulated in the research contract. Note that this does not apply to overseas partner institutions (See Chapter 4 Section 4.2 in 「[JST ムーンショット型研究開発事業 \(AI-ENGAGE\) 日本側応募者への応募にあたっての注意事項](#)」).

(2) If the research organization is a national or local government body (including organizations under the jurisdiction of MEXT) lacking a juridical entity, it is the organization's responsibility to ensure that all necessary procedures, including budgetary arrangements, are completed before the contracted research agreement begins. Please check with your affiliated institutions and contact JST in advance before submitting an application (See Chapter 4 Section 4.4 in 「[JST ムーンショット型研究開発事業 \(AI-ENGAGE\) 日本側応募者への応募にあたっての注意事項](#)」).

(3) Research organizations receiving funds from JST are required to undertake necessary measures to ensure that the research is implemented and research results are handled vis-à-vis foreign partner research organization(s) in a way which is consistent with the stipulations of the contract concluded between the research organization and JST.

Research organizations are required to enter into a Collaborative Research Agreement (CRA) with the involved domestic and foreign partner research organizations which stipulates matters of intellectual property rights, confidentiality, research publications and potential damage liability. The CRA should in principle be concluded by the research organization and be concluded within the first six (6) months of the period of support. A copy of the CRA must be submitted to JST.

## **2. The Responsibilities of JST-funded Researcher**

The researcher representative (PI) of the Japan team must have completed a designated educational course on research ethics. A failure to demonstrate evidence of the completion of such a program will be considered as grounds for the researcher being ineligible for receiving research support (See Chapter 5 Section 5.1 in 「[JST ムーンショット型研究開発事業 \(AI-ENGAGE\) 日本側応募者への応募にあたっての注意事項](#)」)

## **VI Inquiries**

AI-ENGAGE Coordination Group

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