

2024 ASPIRE FOR TOP SCIENTISTS

CALL FOR PROPOSALS

I Aims and Scope

The ASPIRE (Adopting Sustainable Partnerships for Innovative Research Ecosystem) program is an initiative by the Japan Science and Technology Agency (JST) to develop and strengthen Japan's scientific and technological capabilities through supporting international joint research in scientific and technological fields of strategic priority, while simultaneously promoting researcher mobility in the Japanese research community by connecting top researchers from Japan and other leading countries and regions in scientific research.

ASPIRE FOR TOP SCIENTISTS welcomes proposals for international collaborative research which aim to (1) build and expand international researcher networks that foster cutting-edge research and development and (2) provide opportunities to early career researchers with potential to become future leaders in their fields. We welcome proposals from researchers who have already achieved outstanding research results, and who have received ample research funding.

Support will be provided to research teams that conduct collaborative research with researchers in the applicable fields and partner countries and regions (hereinafter referred as partner country) of this call. Each applying team must include at least one researcher who will travel to the partner country to conduct research (outgoing researcher). The outgoing researcher should conduct research activities in the partner country/countries for about one year, while the Japan-based team should simultaneously host one or several incoming researchers from the partner country/countries in a reciprocal manner.

*Please follow the Call for Proposals and the Application Guidelines when applying.

II Call Details

Proposals are welcome from Japan-based researchers intending to conduct collaborative research with researchers from an eligible partner country (Call for Japan-based researchers). Researchers in partner countries need to be currently receiving or expecting to receive support from eligible funding agencies and research institutions (hereinafter referred as FAs).

1. Applicable Fields of Research

· AI and Information

AI and information research for the realization of Society 5.0** based on the principles of

"human understanding and respect," "diversity" and "sustainability".

• **Biotechnology**

Biotechnology research related to promoting the bioeconomy and sustainable agriculture, as well as reduced negative impact on the environment.

• **Energy**

Energy research for carbon neutrality.

• **Materials**

Materials research that contributes to a carbon neutral society and circular economy.

• **Quantum**

Research related to quantum computers and quantum technology in general, including on quantum materials with innovative functionality, which contributes to the realization of a productivity revolution.

• **Semiconductors**

Semiconductor research related to promoting the semiconductor industrial sector.

• **Telecommunications**

Research on telecommunications technology that contributes to the development of a next-generation infrastructure for a digital society.

*Reference examples of research topics in each field are shown in Appendix 1 at the end of the document.

** Society 5.0 is defined as "A human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space."

2. Partner Research Team

(1) Partner Countries and Regions

Australia, Austria, Belgium, Canada, Czech Republic, Denmark, European Union, Finland, France, Germany, Italy, Netherlands, Norway, Poland, Portugal, South Korea, Spain, Sweden, Switzerland, United Kingdom, United States.

*Partner Countries and regions (herein after referred as partner country) may be updated without notice. Please refer to the ASPIRE website for the latest information:

<https://www.jst.go.jp/aspire/en/index.html>

(2) Partner Principal Investigator (Partner PI) Eligibility

Partner PI needs to meet either criteria (i) or (ii):

- (i) already be receiving research support from FAs in their country; or
- (ii) are currently applying for research support from FAs in their country, with the outcome known by no later than the end of May 2024.

Note: If the partner PI is ultimately unsuccessful in receiving research support, the Japan-side application will be deemed ineligible. Please contact JST by e-mail (aspire@jst.go.jp) to confirm the eligibility of partner PIs supported by FAs, if needed.

Collaborative research with researchers in multiple countries and regions specified above is also eligible for support. In such cases, all partner PIs of each partner country must meet the above conditions.

Note: Prior to submitting an application, the Japan-side researcher must reach out to a potential partner PI who is receiving or expecting to receive support from FAs to confirm intention to collaborate. If the proposed partner PI is not receiving research support from eligible FAs, or is later rejected for support, the application will also be rejected.

3. Japan-side Research Team

(1) Requirements

- Researchers who belong to a research institution (university, independent administrative institution, public experimental research institution, public-interest corporation, or company, etc.) in Japan and conduct research at that institution, as well as research teams composed of such researchers, are eligible to apply.
- Researchers and research institutions must register with the "Cross-Ministerial Research and Development Management System (e-Rad) " prior to applying.

<https://www.e-rad.go.jp/en/>

(2) Team Organization

The Japan-side team should consist of the below members, led by a Principal Investigator (PI). The team should also include one or several researchers who will travel to the partner country (outgoing researcher). A commissioned research contract is concluded between JST and each of the PI and Co-PIs' research institutions.

- **Principal Investigator (PI)**

The PI is a researcher who is directly supported by JST, represents the overall research team in Japan and is responsible for directing the research project as a whole. The PI must be affiliated with a university or research institution in Japan.

- **Co-Principal Investigator (Co-PI)**

The Co-PI is a researcher who is directly supported by JST and collaborates with the PI in conducting the research project. The Co-PI must be affiliated with university or research institution in Japan. Including one or several Co-PI is optional.

- **Outgoing Researcher**

In principle, the outgoing researcher should fall under either (i) or (ii) below. Even researchers who have not applied as outgoing researcher and undergraduate students are allowed to travel to the partner country/countries.

There is no limit to the number of outgoing researchers.

- (i) Students enrolled in an advanced degree course (i.e. master's or doctoral course)
- (ii) Researchers who are conducting research activities at universities, public research institutions, etc. and have been working for less than 15 years after obtaining their final degrees.

Researchers who are enrolled in a master's course, doctoral course or are postdoctoral researchers after completing a doctoral course during the research period should confirm that there are no obstacles to use research funds within the institution and obtain prior approval from the applicant and the research institution to which he/she belongs.

- **Research participants**

Researchers, technicians, research assistants, students* and others who will participate in the research project under the direction of the PI or Co-PIs but are not directly supported by JST.

*Students including undergraduate students. But it is limited to the case that the student has basic knowledge and plays an important role in actual research activities, or he/she has special responsibilities that go beyond the normal university curriculum or degree research within the scope of academic studies. Please make appropriate decisions based on the rules of each research institution.

4. Number of Projects

Approx. 15 projects across all research fields are expected to be funded.

III Program Information

1. Scale of Funding

The maximum total direct cost per proposal for the entire support period is 380 million yen (500 million yen when including indirect costs, which should be equivalent to 30% of the total direct cost).

At least 70% of the total direct cost should be allocated directly to activities which contribute to the program aims of (1) building and expanding international researcher networks that foster cutting-edge research and development and (2) laying the foundation for long-lasting participation in the international research community by promoting international talent mobility and circulation and providing research opportunities to early career researchers.

2. Research Period

Approximately 5 years from December 2024 to the end of March 2030 for JST-supported researchers.

3. Eligible Costs

(1) Eligible Direct Costs

Eligible direct costs are those which is directly necessary for accomplishing the research,

indicated below.

a. Travel Expenses

Travel and stay expenses for outgoing researcher and for research participants described in the research plan.

Travel and stay expenses for researchers invited from the partner country.

b. Personnel costs

Personnel expenses for research participants described in the research plan.

Personnel expenses for researchers invited from the partner country.

Personnel expenses of staff necessary to coordinate the researchers' travel and personnel-related procedures for invited researcher.

(PI and Co-PI personnel expenses and teaching buyout policy may apply)

c. Facilities, Equipment and Consumables

Costs of research equipment, purchase of books, reagents, materials and consumables, etc.

Costs of research equipment, materials, consumables, etc. related to research and expenses necessary for daily life during staying at the partner countries.

Costs of research expenses, etc. for researchers invited from the partner country.

d. Miscellaneous

Necessary costs for the research and development (cost for organizing and hosting events for research dissemination, equipment leasing costs, transportation costs for equipment used for the research project).

(2) Eligible Indirect Costs

Indirect costs refer to funds which go directly to the research institution for administrative overhead costs.

(3) Points of Caution

At least 70% of the total direct cost should be allocated directly to activities which contribute to the program aims of (1) building and expanding international research networks that foster cutting-edge research and development and (2) laying the foundation for long-lasting participation in the international research community by promoting international talent mobility and circulation and providing research opportunities to early career researchers.

The 70% or more of research expenses reserved for promoting the international network and fostering future generations of researchers may cover expenses related but not limited to:

- holding workshops to strengthen connections among researchers.
- travel expenses for the outgoing researcher, early career researchers traveling to the partner country and expenses incurred during the stay.
- personnel expenses for administrative staff to coordinate invite researchers' travel and personnel-related matters.

Please note that employment, purchase of equipment, etc. purely for the purpose of conducting research may not be counted as a part of the 70%.

IV Application Procedure

1. Proposal and Review Schedule

The schedule for the submission and evaluation of research proposals for FY2024 is as indicated in the table below and is subject to change. Interviews will be conducted for those applicants who pass the document review and the date and time of which will be communicated to applicants on an individual basis.

Application via e-Rad system deadline	May 9 (Thu), 2024, 12:00PM JST
Document review	Late May to early August 2024
Interview of applicants who pass the document review	September 2024 (tentative)
Notification of results	October 2024 (tentative)
Start of research	December 2024 (tentative)

* The above details are subject to change.

2. Application Documents

Applications should be prepared in accordance with the instructions in the provided application form (2024_ASPIRE_TOP_form.docx). The Confirmation Form requires a stamp of an institutional representative of the research institution. Note that in the case of a university or college, this representative is typically the president, not a department head or similar. The official seal of the institution can be omitted if this is in accordance with the organization's own rules, in which case the appropriate approval reference number should be included in its stead.

Applications should include a Letter of Intent (LoI) which indicates prior agreement from the partner PI to conduct joint research and carry out researcher exchange activities. A sample template for the LoI is provided on the ASPIRE Call for Proposals webpage and the documents should include a statement of the partner PI's intention to accept the researcher from the Japan-side team. Information about what research support the researcher is receiving or expecting to receive should be outlined as well. If an institution that is different from the affiliated institution of the partner PI accepts the Japan-side researcher, an LoI from that institution is also required.

It is possible for the outgoing researcher to visit several research institutions other than the one to which the partner PI belongs. In this case, it is not necessary to submit a LoI for each of the institutions visited.

3. Application Submission

An application must be submitted via the Cross-Ministerial Research and Development Management System (e-Rad).

<https://www.e-rad.go.jp/en/index.html>

Call title (Japanese): 2024 年度「Top のための ASPIRE」

Call title (English) : 2024 ASPIRE FOR TOP SCIENTISTS

Deadline : 12:00 PM (noon), Thursday May 9, 2024

Proposals should be prepared well in advance, as submission through e-Rad may take time. Applications not submitted by the deadline will not be considered.

4. Results Notification

(1) Document Review Results

Interviews will be held for those applicants who pass the document review. Applicants who proceed to the interview stage will be notified of the date and time to the e-mail in the application form.

(2) Results Announcement

Results to all proposals will be sent by e-mail in October 2024.

5. Evaluation Criteria

Proposals will be evaluated based on the following criteria:

(1) Relevance and diversity of the research system:

- Does the research team have a well-balanced composition of expertise, given the objectives of the proposal?

(2) Qualification of the PIs of the research team in Japan and in the partner country:

- Does the PI have sufficient ability to manage the research?
- Does the PI have sufficient research achievements to have potential to join the international top research community, or can be deemed to already be a part of it as shown by high level research achievements?
- Does the PI have enough experience of promoting early career researchers through international brain circulation, etc.?
- Do the PI and team have sufficient qualifications, research facilities, and resources (funds, human and material resources, etc.) to carry out the research activities in accordance with the proposal and purpose of this call?

(3) Relevance and quality of the research content and plan:

- Are the proposed research activities of a high standard in the research field/area concerned?
- Is the proposed research plan expected to lead to research of an international top-level standard?

- Are synergy effects expected from conducting international joint research as a part of this project?
- (4) Concreteness and relevance of plans for building and expanding international networks:
- Has the target international top research community has been clearly defined and does it match the purpose of this call?
 - Has an appropriate, concrete, and feasible plan been formulated for the purpose of building, enabling participation in, and developing a top international research community?
 - Is there sufficient budget for building and expanding the international network, and is there an appropriate budget plan?
- (5) Concreteness and feasibility of plans for promoting early career researchers and researcher mobility:
- Are appropriate goals set for fostering early career researchers through international mobility activities?
 - Are there plans to involve a sufficient number of early career researchers?
 - Is an effective developing plan for the early career researchers considered and is the plan suitable for fostering the next generation of top researchers?
 - Are the roles and length of stay for the outgoing researcher(s) clearly described and appropriate? Is the hosting research institution appropriate and able to sufficiently accommodate the outgoing researcher(s)?
 - Is the exchange plan feasible, with concrete preparations made involving sufficient coordination with the involved parties in Japan and partner country or countries?
 - Is the budget sufficiently allocated for promoting early career researchers, and is the budget plan appropriate?

VI Points of Note

1. Restrictions on Multiple Applications to ASPIRE Programs

- (1) Multiple applications to JST ASPIRE 2024 Joint Call for Proposals and the Japan Agency for Medical Research and Development (AMED) ASPIRE 2024 Call for Proposals will not be accepted.
- (2) Applications by the PIs of a project selected in "ASPIRE FOR TOP SCIENTISTS (2023 Call)" or "ASPIRE FOR TOP TEAMS(2023 Call)" will not be accepted.
- (3) Applications by the PIs of a project selected in "ASPIRE FOR RISING SCIENTISTS (2023 Call)" will be accepted, but if the project is selected in this "ASPIRE FOR TOP SCIENTISTS(2024 Call)", the support in "ASPIRE FOR RISING SCIENTISTS"(ASPIRE 2023 Call) will end.
- (4) Simultaneous applications (in the same cycle) for "ASPIRE FOR TOP SCIENTISTS" and "ASPIRE FOR RISING SCIENTISTS" are not allowed.
- (5) In principle, only one ASPIRE application per call cycle is allowed.

2. Safety Management Responsibilities

(1) Safety Management for Researchers

The institution to which the outgoing researcher belongs and the PI should ensure that safety measures for the outgoing researcher are sufficiently taken, including at the destination. In addition to ensuring that they the outgoing researcher has overseas travel accident insurance which covers emergency transportation services, etc., in case of unexpected injuries and similar. Consideration should be given to safety management, including support for necessary vaccinations and the establishment of an emergency contact system.

(2) Travel Procedures

The research institution to which the outgoing researcher belongs should take full responsibility for travel procedures, including visa matters, arrangements and similar as necessary, for both the outgoing and incoming researchers.

Every effort should be taken to ensure the safety of outgoing researcher in accordance with information and guidance provided by the Ministry of Foreign Affairs, including necessary procedures such as submitting a notification of residence and registering with the Ministry of Foreign Affairs' 「たびレジ」 (<https://www.ezairyu.mofa.go.jp/index.html>).

•Ministry of Foreign Affairs travel information:

https://www.mofa.go.jp/j_info/visit/visa/index.html

•Ministry of Foreign Affairs of Japan overseas safety Information:

<https://www.anzen.mofa.go.jp/riskmap/>

3. JST-funded Research Organization Responsibilities

(1) Research institutions will, if funded, need to conclude a commissioned 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 institution, 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 Section 3.2 in Application Guidelines).

(2) If the research institution is a national or local government (including organizations under the jurisdiction of MEXT) body lacking a juridical personality such as that of a national university, it is the responsibility of the contracted research organization to carry out the necessary budgetary measures and other relevant procedures in advance of entering into the contract. In such cases, please contact JST in advance of making an application (See Section 3.5 in Application Guidelines).

(3) To ensure that there are no hindrances to the proper implementation of research and the utilization of research results, joint research agreements with participating institutions regarding the handling of intellectual property rights and confidentiality are required, to the extent that this does not violate the contract research agreement with JST. Please take the necessary measures, such as signing a contract (See Section 3.5 in Application Guidelines).

- (4) In conducting research, please comply with the Foreign Exchange and Foreign Trade Act (No. 228 of 1949), as well as national laws, guidelines, and notifications. (See Section 4.19 in Application Guidelines).

4. Responsibilities of Principal Investigators

- (1) The Japan-side PI must have completed a designated online course on research ethics. A failure to demonstrate evidence of the completion of such a course will be considered as grounds for the researcher being ineligible for receiving research support (See Section 4.1 in Application Guidelines).

(2) Annual Research Report

The PI is required to submit an annual research report promptly according to the form provided by JST. In addition, the Japanese research institution which has concluded a contract research agreement with JST is required to submit an accounting report of the support expenses to JST promptly after the end of each fiscal year.

(3) Final Research Report

The PI is required to submit a Final Research Report to JST promptly after the end of the research period for the joint research. JST will contact the PI about the form, submission deadline, etc. at an appropriate time.

(4) Mid-term Evaluation and Post-Evaluation

A mid-term evaluation of the proposal will be conducted halfway through the research period (around the third year) and a post-evaluation will be conducted following the conclusion of the research. The outcome of the mid-term evaluation will be reflected in subsequent research plans and resource allocation (including increases/decreases in research funding and other adjustments). If deemed to be necessary based on the state of the research project, support for the project may be terminated early.

VIII Inquiries

Japan Science and Technology Agency (JST)

Department of International Affairs

ASPIRE FOR TOP SCIENTISTS

aspire (at) jst.go.jp

*replace (at) with @

Applicable Fields of Research Examples for Reference

For reference, examples of research in each field are shown below, but proposals are welcome in other related areas as well.

•AI and Information

AI and information research for the realization of Society 5.0* based on the principles of "human understanding and respect," "diversity" and "sustainability".

Examples: AI research and computing infrastructure, mathematical sciences, human-centered computing, etc.

•Biotechnology

Biotechnology research related to promoting the bioeconomy and sustainable agriculture, as well as reduced negative impact on the environment.

Examples: Cross-disciplinary research encompassing engineering, chemistry, physics, agriculture, biology, etc.

For example, bio -measuring base technology, engineering biology, future -type food production, bio DX, etc.

•Energy

Energy research for carbon neutrality.

Examples: Next generation solar cells, storage batteries, hydrogen production by water electrolysis, hydrogen utilization technology (fuel cells, etc.), research related to energy conservation, etc.

•Materials

Materials research that contributes to a carbon neutral society and circular economy.

Examples: Fundamental research for the development of ultimate metallic/inorganic, organic/polymeric materials, and applied research, etc.

•Quantum

Research related to quantum computers and quantum technology in general, including on quantum materials with innovative functionality, which contributes to the realization of a productivity revolution.

Examples: Quantum technology contributing to ultra-high-speed parallel information processing, higher-performing measurement technology, higher-performance materials, etc.

•Semiconductors

Semiconductor research related to promoting the semiconductor industrial sector.

Examples: Architecture related to innovative AI chips, circuit technology, semiconductor devices, design automation technology, etc.

•Telecommunications

Research on telecommunications technology that contributes to the development of a next-generation infrastructure for a digital society.

Examples: Communication research related to wireless/wired technology, devices, security, interdisciplinary research in information engineering, etc.

* Society 5.0 is defined as "a human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space."