ERATO

Exploratory Research for Advanced Technology

Call for Nominations
JST Strategic Basic Research Programs
ERATO Research Director Candidates
~ Guidelines for Nominators~

August 2017

Department of Research Project
Japan Science and Technology Agency (JST)

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1. Strategic Basic Research Programs and ERATO

What are the "Strategic Basic Research Programs"?

◆ Purpose
 The purpose of Strategic Basic Research Programs is to advance strategic basic research under policies determined by the Japanese Government, and create the seeds of innovative technologies based on new scientific knowledge that gives rise to scientific and technical innovation leading to social and economic change.

◆ Overview
 Based on the national government's science and technology policies and social economic needs, under ''Strategic Objectives'' prescribed by the Ministry of Education, Culture, Sports, Science and Technology, JST specifies Research Areas to pursue and Research Supervisors to lead them. The Research Supervisor pursues strategic basic research aimed at creating the seeds of innovative technologies that will give rise to science and technology innovations that lead to the achievement of solutions in Strategic Objectives.
 Strategic Basic Research Programs contain ''CREST''(Research projects pursued by research teams led by Research Directors), "PRESTO", "ACT-I"(Research projects pursued by individual researchers), and ''ERATO'' (Research projects pursued led by Research Directors to achieve Research Director's research goals).

About ERATO

◆ Purpose
The purpose of ERATO is to form a headstream of science and technology, and ultimately contribute to science, technology, and innovation that will change society and the economy in the future.

◆ Overview
 Exploratory Research for Advanced Technology (ERATO), a research funding program in Japan, was founded in 1981 to promote basic research in science and technology and has funded 130 projects to date. Some of the research results from ERATO projects create new businesses, and others lead to develop the next generation of leaders for research and development in Japan. With more than 30-years contribution to research communities, ERATO has earned recognition among researchers as one of the most prestigious research funds in Japan as well as overseas.

 In cooperation with JST, Principal Investigators of ERATO projects (called hereinafter Research Directors) establish new research facilities independent from the existing ones and recruit young researchers to achieve Research Directors' research goals within a limited time frame.

The significant features of ERATO are as follows:
- ERATO promotes novel, unique, and transformative research which could change the direction of thought in a discipline or make a substantial discovery to break new ground in science and technology within the next 10-15 years
- ERATO should never be an expansion of on-going research and its ultimate goal is to lead to innovative changes in industries and societies.
- ERATO projects recruit best-in-class researchers from various fields beyond organizational boundaries to encourage interdisciplinary research.
- If necessary, Research Directors may implement a part of ERATO projects at overseas institutes for international research collaboration.

Please note that the agreement shall be signed for implementation of the international research collaboration, and some restrictions and regulations should be applied for such agreement.

◆ Role of the Research Director

- The Research Director acts as a project manager to draw up a detailed plan for the research, recruit researchers, and direct and manage the research groups to achieve his or her vision.
- The Research Director brings together best-in-class researchers from various fields beyond organizational boundaries to encourage interdisciplinary research.
- The Research Director is expected to collaborate, as needed, with others in CREST*, PRESTO**, and ACT-I*** research areas, in order to achieve the Strategic Objectives set by MEXT****.

*CREST is a Strategic Basic Research Program that promotes impressive research groups assembled in one research area to achieve Strategic Objectives.
**PRESTO is a Strategic Basic Research Program that promotes the independent research of individuals through advice from mentors (Research Supervisor and Advisers), providing a forum for exchange among various institutions and background researchers involved in the same fields of research.
***ACT-I is a Strategic Basic Research Program that promotes the independent research of individuals through advice from mentors (Research Supervisor and Advisers), providing a forum for exchange among various institutions and background researchers involved in the same fields of research.
***Strategic Objectives are the prioritized research objectives formulated by Ministry of Education, Culture, Sports, Science and Technology (MEXT).
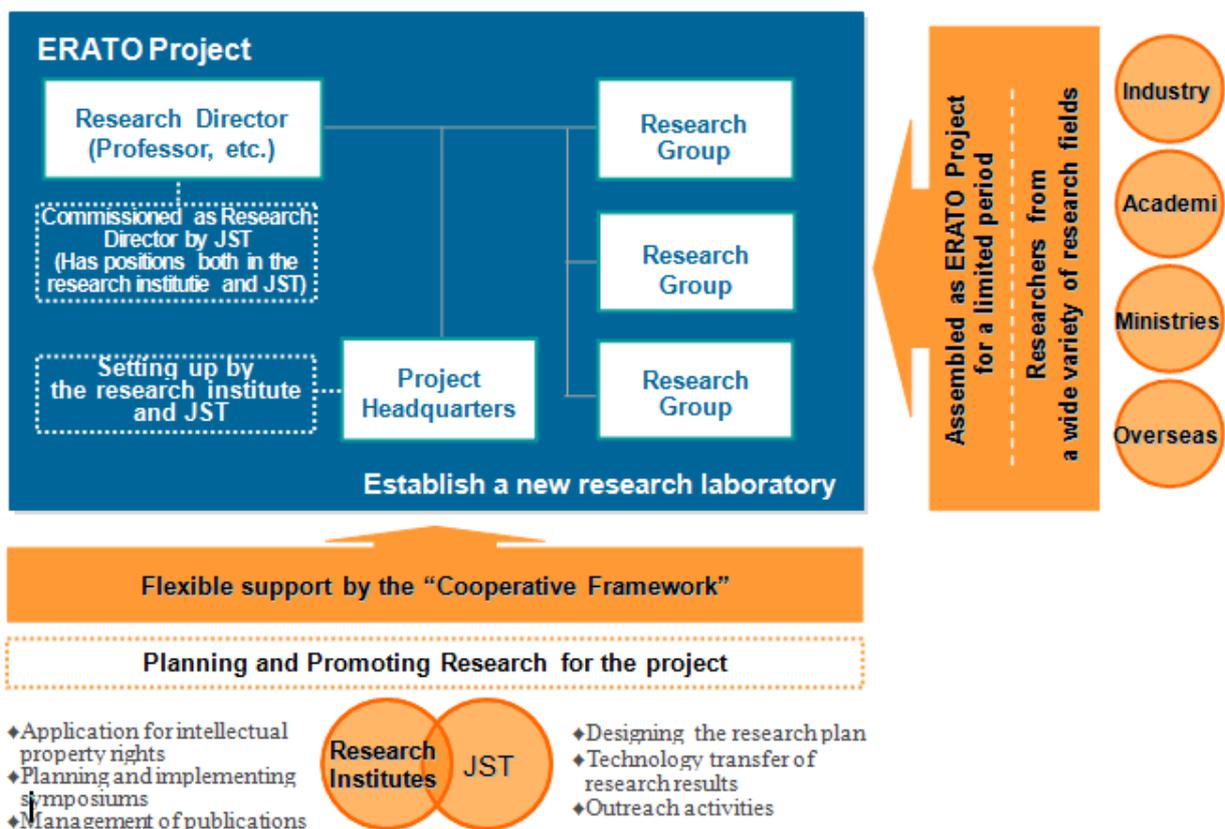
◆ Researchers

The best researchers from academic, industry, and government sectors, including those from overseas, are recruited for each project.

◆ Research Management

Each project is managed by a Research Director as a project manager, and both JST as well as the research institution to which a Research Director belongs get involved in day-to-day management of research operations. This is a unique collaboration style between JST and a research institution.

◆ Organization

In order to drive the research project efficiently, researchers and research administrators work at a research site together with the Research Director. The project team consists of several research groups and the project-headquarter office for the research administration work.

ERATO Project

Research Director (Professor, etc.)

Commissioned as Research Director by JST (Has positions both in the research institutie and JST)

Setting up by the research institute and JST

Project Headquarters

Research Group

Research Group

Research Group

Establish a new research laboratory

Assembled as ERATO Project for a limited period

Researchers from a wide variety of research fields

Industry

Academi

Ministries

Overseas

Flexible support by the "Cooperative Framework"

Planning and Promoting Research for the project

◆Application for intellectual property rights
◆Planning and implementing symposiums
◆Management of publications

Research Institutes   JST

◆Designing the research plan
◆Technology transfer of research results
◆Outreach activities

◆ **Research Facility**

ERATO research facilities are secured independently from existing facilities used by researchers for other projects.

◆ **Research Period and Budget**
- The research period is approximately five (5) years.
- Funding amount is up to JPY 1.2 Billion for each project.

◆ **Other conditions**

The Research Director must be affiliated with a domestic Japanese research institution, where the Research Director will organize and pursue the proposed research. (Nationality will not be considered.)

（Reference）
For more information, please refer to the following webpage.
URL   http://www.jst.go.jp/erato/en/about

2. Eligibility for Nominators and Criteria for Nominees

Important Note;
Self–nominations for ERATO Research Directors are <u>NOT</u> acceptable.

◆ **Eligibility for Nominators**
Any individual with <u>research & development (R&D) experience as an employee at a university, public research institute, or R&D section of a private sector firm</u> is eligible to submit nominations. Please note that JST accepts **ONLY FIVE (5) nominations** from any one nominator.
※ Nomination forms submitted are not returned.
※ Nomination forms are not directly disclosed to the nominees and external experts for the selection of ERATO Research Directors.

◆ **Eligibility for Nominees (Criteria for ERATO Research Director candidates)**
Before submitting nominations, please consider whether each nominee meets the following criteria for ERATO Research Directors.
  ➢ **The nominee should be an outstanding and competent scientist who is qualified to lead an ERATO Project.**
    • Is the nominee an ambitious researcher who can address unique and original research with global foresight and become a pioneer to lead innovative changes in the world?
    • Does the nominee have his or her own philosophy and a long-term vision for the research? Is he or she capable of getting things done for innovation?
  ➢ **The nominee should be capable of leadership and be a person who can inspire young scientists.**
    • Is the nominee capable of leadership and willing to integrate expertise in a wide range of research fields into an ERATO project?
    • Does the nominee motivate young researchers with enthusiasm and have them give full scope to their talents and responsibilities?

(Reference)
For more information on completed and ongoing ERATO projects, please refer to the following web pages.
 - List of Ongoing Research Projects
    URL   http://www.jst.go.jp/erato/en/research_areas/ongoing
 - List of Completed Research Projects
    URL   http://www.jst.go.jp/erato/en/research_areas/completed

3. Submission Procedures

◆ **Prepare and complete an e-mail nomination**
  Step 1: Download the nomination form for ERATO Research Director candidates from the following webpage:
  URL   http://www.jst.go.jp/erato/en/call_for_nominations
  Step 2: Please provide all the requested information, including contact information for the nominator.
  Step 3: Please send the completed form to erato-suisen[at]jst.go.jp. Please change (at) to @.
  *JST would very much appreciate it if you could place "ERATO nomination form attached" in the subject line of the e-mail.

◆ **Deadline to submit nomination**
JST accepts e-mail nominations throughout the year.
All nominations received by 12:00 (noon) on November 30 , 2017 (Thu.) will be considered as ERATO Research Director candidates for the FY2018 ERATO selection.
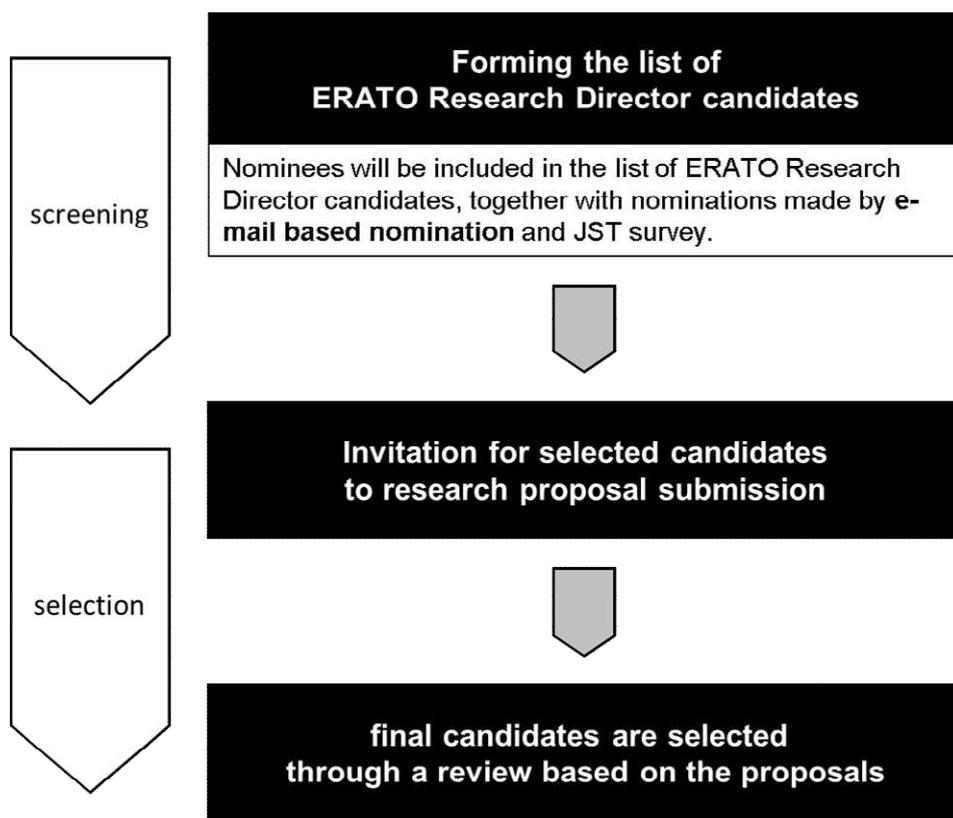
◆ **Important information for nominators**
  ✓ Once the nomination form is received, revision will not be permitted under any circumstances.
  ✓ All the information provided in the nomination form is considered to be confidential and this information is used solely for the purposes of this ERATO selection.
  ✓ The nomination form submitted will not be returned.
  ✓ If a nominator submits six (6) or more nominees, all the nominations will be invalid.

4. Selection Process of ERATO Research Directors

◆ **Selection Process (Provisional)**
  ➢ Nominees will be included in the list of ERATO Research Director candidates, together with nominations made by JST survey. From this list, several candidates will be selected in cooperation with external experts (Panel Officers).
  ➢ The selected candidates will then be invited to submit research proposals. Based on the submitted research proposals, a review will be conducted to select Research Directors.

◆ Selection Criteria

Research Directors should be able to fulfill the role of Research Director (page 3) and meet the criteria for Research Director (page 5).

In addition, the following criteria will be taken into account in reviewing the research proposals submitted by Research Director candidates.

➢ The Research Project should bring about a new phase of science and technology or create a new tide of the times in Science and Technology.
➢ The Research Project should be appropriate for one of the Strategic Objectives.
➢ The Research Project should be properly planned in terms of composition of researchers and other staff, methodology, budget scale, etc.

5. Notification of Results

➢ Our intention in calling for nominations is to prepare a list of ERATO Research Director candidates from research communities. Please note that JST will NOT inform nominators of the status of each nominee once the nomination form is submitted.
➢ JST will contact selected Research Director candidates directly requesting them to submit research proposals.
➢ ERATO selection results (the selected ERATO Research Directors' names and their project titles) will be announced on the ERATO homepage.
http://www.jst.go.jp/erato/en/news

6. Inquiries

Japan Science and Technology Agency (JST)
Department of Research Projects, ERATO
K's Goban-cho Bldg., 7 Goban-cho, Chiyoda-ku, Tokyo, Japan 102-0076
Tel： 03-3512-3528　　Fax：03-3222-2068
E-mail： erato-suisen[at]jst.go.jp. Please change (at) to @.

Program Administration Policies and Guidelines

The following provisions apply to all the process of selecting ERATO Research Director candidates.
*Hereinafter, the term "researcher" means a candidate who proposes his/her ERATO research proposal; the terms "project" and "research proposal" both mean a submitted research proposal, and "research institution" means the institution with which a candidate is affiliated.

1. Handling of Information Provided in Research Proposals, Etc.

○ From the standpoint of maintaining the interests of the applicant, the "Act on the Protection of Personal Information Held by Independent Administrative Agencies, etc.", and other standpoints, research proposals shall not be used for any purpose other than the selection process. Confidential information regarding research proposal details shall be strictly maintained. For details, please refer to the following website.
  http://law.e-gov.go.jp/htmldata/H15/H15HO059.html

○ Handling of Information Regarding Selected Projects
  Information regarding individual projects that have been selected (name of system, name of research project, name of affiliated research institution, name of Research Director, budget amount, implementation period, etc.) shall be deemed to be "information that is scheduled to be made public" as prescribed under Article 5, Paragraph 1, Item (a) of the "Act on Access to Information Held by Independent Administrative Agencies" (Act No. 140 of 2001).
  The name of the researcher, name of the affiliated research institution, name of the research project, and the research project overview summary are scheduled to be made public. In addition, the research proposals of selected applicants may be used by the JST to promote the research after the proposal's approval.

○ Provision of Information from the Cross-ministerial R&D Management System (e-Rad) to the Government Research and Development Database
  The Fifth Term Basic Plan of Science and Technology is said to attempt to complete the registration of funds for public solicitation for the promotion of science and technology innovation policies based on objective evidence in a research and development management system common to ministries in order to perform evaluation and analysis. Information registered in e-Rad is utilized for properly evaluating research and development with the country's fund and for planning effective and efficient comprehensive strategies. For the purpose, CSTI and relevant ministries have decided to complete registration of achievement information and accounting achievements, such as papers and patents, in e-Rad in order to connect output and outcome information related to inputs to the publicly solicited research fund system.
  Information on research achievement and accounting and on use of indirect expenses related to competitive fund for adopted issues shall be input in e-Rad every year. The information necessary for macroscopic analysis, including information on research achievement and accounting performance, will be provided to the cabinet office.

2. Measures against Unreasonable Duplication and Excessive Concentration

○ Measures against "Unreasonable Duplication"
  In the case that a researcher is unnecessarily receiving competitive funding from multiple sources for the same research project (name or content of research receiving competitive funding; hereinafter the same shall apply) being undertaken by the same researcher and any of the following applies, the researcher shall be made ineligible to apply for this program, selection of their research project withdrawn, or their research funding reduced (hereinafter referred to as "withdrawal of research project selection").
  1) In the case that simultaneous proposals have been submitted for multiple competitive research funds and duplicate approval granted for essentially the same research project (including cases in

which there is a considerable degree of research content duplication; hereinafter the same shall apply).

2) In the case that a duplicate application is made for funding of a research project that is essentially the same as another research project that has already been selected and has already received competitive research funding.

3) In the case that there is overlap in the intended application of research funding between multiple research projects.

4) Other cases equivalent to the above.

Although at the application stage for this program there are no limitations regarding the submission of proposals to other competitive funding programs, etc., in the case that a research project is selected by another competitive funding program, please report this promptly to the JST at the contact address given at the end of this document. If reporting is omitted, the approval decision for the research project may be revoked.

○ Measures against "Excessive Concentration"

Even if the content of the research proposed for this program differs from the content of research being carried out under another competitive funding program, in the case that the overall research funding allocated to the same researcher or research group (hereinafter referred to as "researchers") in the relevant fiscal year exceeds an amount that can be utilized effectively and efficiently and cannot be used within the research period, and any of the following applies, selection of the research project under this program may be withdrawn.

1) In the case that an excessive amount of research funding is being received in light of the capabilities of the researchers and the research methods being used, etc.

2) In the case that an excessive amount of research funding is being received in comparison with the amount of effort (percentage of the researchers' overall working time* that is required for carrying out the said research project) being allocated to the research project.

3) In the case that highly expensive research equipment is purchased unnecessarily.

4) Other cases equivalent to the above.

For this reason, in the case that you submit proposals to other competitive funding programs, after submitting your application for this program, and the research project is selected by another competitive funding program, or if any information provided on your application changes, please report this promptly to the JST at the contact address given at the end of this document. If reporting is omitted, the approval decision for the research project may be revoked.

*this is based on the Council for Science, Technology and Innovation's definition of 'effort', which is "the percentage of working hours required for conducting the relevant research when the researcher's total annual working hours are 100%".Note that "total working hours" does not refer only to the number of hours spent in research activities but to the substantive total working hours, including educational and medical activities.

○ Information on proposal contents provided to eliminate unreasonable duplications and excessive concentration.

In order to eliminate unreasonable duplication and excessive concentration, to the extent necessary information regarding some proposals (or selected projects/programs) may in some cases be provided through the Cross-ministerial R&D Management System (e-Rad) to other departments in charge of competitive funds, including other government ministries. Furthermore, when it is required that checks be made for duplicate project applications under other funding programs, information may be provided in a like manner.

○ In the case that the researcher is receiving Grants-in-Aid for Scientific Research or other competitive research funding operated by the national government or independent administrative agencies (including national research and development agencies), or other research grants (including funding for which applications have been submitted), please provide information about this funding on the research proposal in accordance with the prescribed format. Based on information regarding the content of the research proposal and effort (research time allocation rate), in the case that either

unreasonable duplication or excessive concentration of competitive funding has occurred, the research proposal may not be selected or selection may be withdrawn, or research funding may be reduced. Furthermore, the research proposal may also not be selected or selection may be withdrawn, or research funding may also be reduced in the case that the information provided on the research proposal is found to be false.

○ In order to eliminate the unreasonable duplication or excessive concentration of competitive funding mentioned above, in the case that a researcher is receiving other competitive funding operated by the national government or independent administrative agencies (including national research and development agencies), or other research grants, or in the case that a researcher has been selected for such funding, the researcher may not submit proposals for this program for research with the same project name or content.

○ In the case that the applicant is scheduled to receive 100 million yen or more in research funding under other systems or research grants, etc. in FY2017 or 2018, in view of the purpose of eliminating unreasonable duplication and excessive concentration, as a general rule final selection of the research project and budget amounts are decided in an integrated manner. In the case that the applicant is scheduled to receive a total of 100 million yen or more from multiple funding systems/grants, he/she is given individual consideration accordingly within the selection process.
Although not relevant for research projects at the application stage, the research proposal may be removed from the selection process for this program or the selection decision withdrawn depending on the outcome of selection for other competitive funding or research grants. Furthermore, when it is discovered, during the selection process for this program, that the research project has been approved/rejected for another competitive funding system, please report this promptly to the JST at the contact address.

3. Measures against Inappropriate Usage and Receipt of Research Funds

Inappropriate use and reception (referred to as "inappropriate use and the like" hereafter) of research expenses related to implemented issues are strictly treated as described below.

○ Measures to be taken in case inappropriate use and the like of research expenses are found
（ⅰ）measures to cancel contracts
  Contract research agreement is cancelled or altered concerning issues in which inappropriate use and the like are found and a request is made for refunding all or part of trusted expenses. Contract for the following year and thereafter may not be concluded.
（ⅱ）measures to restrict application and participation*
  Restriction measures set out in the table below depending on the levels of inappropriate use and the like are taken against application and participation by researchers** (including researchers who conspired, referred to as ("researchers who conspired inappropriate use and the like")) who exercised inappropriate use and the like of research expenses of this project or those whose involvement in appropriate use and the like is not proven but who violated the duty of good care. Furthermore, the outlines of pertinent inappropriate use and the like (names of researchers who exercised inappropriate use and the like, project names, affiliations, research issues, amounts of budget, fiscal year of research, contents of inappropriate use and the like, contents of measures taken) are provided to persons of other prefectures and their independent corporations in charge of competitive funds, who may restrict application and participation in other systems for competitive fund of the prefectures. "Application and participation" means proposal, subscription, and application of a new issues; participation in research as a new joint researcher; and participation in an ongoing research issue as a joint researcher.
*"Application and participation" means proposal, subscription, and application of a new issue; participation in research as a new joint researcher; and participation in an ongoing research issue as a joint researcher.
**"researchers who violate the duty of good care" means those whose involvement in inappropriate

use and the like is not proven but who violated the duty of good care a good manager should exercise.

Details of Research Funding Usage and Receipt	Period of Limitation on Application (starting from the next fiscal year in which the misconduct in research activities is deemed to have occurred)
1. Cases in which the research funds were used to attain personal economic gain.	10 years
2. Cases in which the extent of the inappropriate use of research funds, etc. is deemed to have had a large effect on society and the maliciousness of the action is deemed to be high.	5 years
3. Cases apart from 2 and 4 in which the impact of the action on society and its maliciousness are taken into consideration.	2-4 years
4. Cases in which the extent of the inappropriate use of research funds, etc. is deemed to have had minimal effect on society and the maliciousness of the action is deemed to be low.	1 years
5. Cases in which dishonest means, such as deceit, were used to have the research project in question selected for the program.	5 years
6. Although not directly involved in the inappropriate use of research funds, cases in which the use of research funds is deemed to have violated the due care of a prudent manager.	1-2 years

*The contents of this table are provisional.

(ⅲ) About public announcement of a case of inappropriate use and the like

Regarding those researchers whose application to or participation in this program, among those who make inappropriate usage of the program's research funds or those who are in breach of their duty for diligence, information regarding the outline of the misconduct etc. (name of researcher, name of program, name of affiliated institution, fiscal year of research, details of the misconduct and details of measures taken) will be disclosed in principle by JST. Moreover, details of the misconduct (the title of the case, type of misconduct, the research area of misconduct case, the name of the funding in regard to which misconduct occurred, the outline of the misconduct case, the measures taken by the research institution, the measures taken by the funding organization, etc.) will be disclosed in principle by MEXT.

Furthermore, according to the ''Guidelines of Management and Audit of Public Research Funds in Research Institutes (Implementation standards)'', once misconduct is determined as the outcome of an investigation, it will be the responsibility of the research institution to announce the results of the investigation; hence, we ask each institution to deal with the matter appropriately.

http://www.mext.go.jp/a_menu/kansa/houkoku/1364929.htm

4. Measures taken for researchers whose application and participation are restricted in another competitive fund system

Researchers on whom restriction is imposed for the reason of inappropriate use and the like of research expenses in another competitive fund system* under the central government or independent corporations are subject to restricted application to and participation in this project while their qualifications are restricted for application in the competitive fund system.

*see the table of competitive fund systems in the URL below for other specific systems.

http://www8.cao.go.jp/cstp/compefund/kyoukin28_seido_ichiran.pdf

It includes systems that finished in 2016 fiscal and those that publicly invite proposals in 2017 fiscal. Note that some the systems described above may be altered.

''Other competitive fund systems'' include those systems that publicly begin inviting proposals

newly in 2017 fiscal and those that finished before 2016 fiscal.

5. Regarding implementation of systems based on the "Guidelines of Audit of Public Research Funds in Research Institutes (Implementation standards)"

In implementing the program research institutions must stringently observe the ''Guidelines on Management and Audit of the Public Research Expenses in Research Institutions (Implementation standards)'' (decided by the Ministry of Education, Culture, Sports, Science and Technology on February 15, 2007; revised February 18, 2014).

There is a need for the research institutions to take responsibility, having implemented a system for managing and auditing public research funds, to make every effort to properly spend the contract research fund in line with the aforementioned guidelines. If the Ministry of Education, Culture, Sports, Science and Technology recognize the system of a research institution for managing and auditing as insufficient based on the investigation according to the guideline, there is a possibility that measures such as reduction of overhead costs of competitive funding could be taken on the said institution.

See the website for details of the ''Guidelines on Management and Audit of the Public Research Expenses in Research Institutions (Implementation standards)''.

http://www.mext.go.jp/a_menu/kansa/houkoku/1343904.htm

6. Regarding the "Self-evaluation Checklist for Implementation of Proper Systems"

In concluding the contract for this project, research organizations* need to prepare a management and auditing system for research expenses based on the captioned guidelines and to submit "Self-evaluation Checklist for system preparation'' (hereinafter "the checklist"), which is a report on situation and so on (research undertaking is not approved unless the check list is submitted).

It is necessary for a research organization to use the research and development management system (e-Rad) common to ministries in order to submit the check list in the form give on the website below to the Competitive Fund Coordination Office, Promotion Planning Section, Promotion Bureau, Ministry of Education, Culture, Sports, Science and Technology by the date of concluding the contract research agreement. However, submission of a new checklist is not necessary if it has been submitted on another occasion after April 2017.

See the website of Ministry of Education, Culture, Sports, Science and Technology below for details of a method for checklist submission.

http://www.mext.go.jp/a_menu/kansa/houkoku/1301688.htm

Note: a perfect environment for using e-Rad is necessary for checklist submission. Organizations that have not been registered in e-Rad should make the registration soon. (Note It usually takes about two weeks. See the website below in addition to the website given above for detailed procedure for using e-Rad).

http://www.e-rad.go.jp/shozoku/system/index.html

Because the captioned guidelines contain viewpoints of ''promotion of issuing and sharing information,'' describe the checklist on the websites of research organizations to actively issue information.

7. Regarding implementation of systems based on the "Guidellines for Responding to Misconduct in Research Activities"

In applying to this funding program and conducting research activities, research institutions are required to adherence to the '' Guidelines for Responding to Misconduct in Research Activities''

(decided by the Minister of Education, Culture, Sports, Science and Technology on August 26, 2014, hereinafter referred to as the ''guideline'').

In the case that the Ministry of Education, Culture, Sports, Science and Technology finds defects in the situation of system preparation by organizations as a results of survey on the situations based on the guidelines, the Ministry may take measures including reduction of indirect expenses of the whole competitive fund for the pertinent organization.

http://www.mext.go.jp/b_menu/houdou/26/08/1351568.htm

8. About the submission of a checklist related to the situation of approaches based on "Guidelines related to responding to misconducts in research activities"

When concluding the contract for this project, research organizations needs to submit ''a checklist related to the situation of approaches based on ''Guidelines for responding to misconduct in research activities''" (referred to as a ''checklist of inappropriate research conduct, hereafter''). (Research undertaking is not approved unless a checklist of inappropriate research conduct is submitted).

Therefore, it is necessary for a research organization to use the research and development management system (e-Rad) common to ministries in order to submit the checklist in the form given on the website given below to the Office of Equitable Research Promotion, Human Resources Section, Academic Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology by the date of concluding the contract research agreement. However, there is no need to submit a check list of inappropriate research conduct, if it is already submitted on a different occasion after April 2017.

See the website of Ministry of Education, Culture, Sports, Science and Technology for details of the method for submitting a checklist of inappropriate research conduct.

http://www.mext.go.jp/a_menu/jinzai/fusei/1374697.htm

9. Measures taken for misconducts in research activities based on "Guidelines for responding to misconducts in research activities"

Misconducts in research activities in this project are treated strictly as described below.
（ⅰ）Measures to cancel contracts

In the case that this project finds specific misconducts (fabrication, fraudulent alteration, theft) in research issues, it cancels or alters the contract research agreement and requests refunding all or part of trusted expenses. Furthermore, there may be no contract in the following years.

（ⅱ）Measures to restrict qualification for application and participation

Measures given in the table below depending on the level of inappropriateness and responsibility of specific misconduct to restrict application to and participation in this project are imposed upon researchers involved in certain misconduct in research papers or reports of this project and those whose involvement has not been established but who are found responsible to an extent for the violation of the duty of good care as a manager of pertinent papers and reports. Furthermore, in case such restriction measures are taken on qualification for application and participation, information is provided to pertinent sections of competitive fund systems (referred to as ''competitive fund system related to Ministry of Education, Culture, Sports, Science and Technology'' hereafter) distributed by Ministry of Education, Culture, Sports, Science and Technology and independent corporations of the ministry and to pertinent sections of competitive fund systems (referred to as ''competitive fund systems related to other ministries'' hereafter) distributed by other ministries and their independent corporations, which may similarly restrict qualification for application and participation in competitive fund systems related to Ministry of Education, Culture, Sports, Science and Technology and to other ministries.

Persons incurring limitations on applications due to Specific misconduct			Extent of Specific Misconduct	Period of limitation on applications (Imposed from the fiscal year following the year in which misconduct is officially recognized*)
Person Involved in the Misconduct	1. Especially malicious individual who intentionally engages in Specific misconduct from the outset of the research			10 years
	2. Author of academic paper, etc. related to research in which there has been misconduct	The author responsible for the academic paper in question (supervisor, first author, or other position of responsibility deemed equivalent)	The impact on the advancement of research in the relevant field or society is large, and the maliciousness of the misconduct is deemed to be high.	5-7 years
			The impact on the advancement of research in the relevant field or society is small, and the maliciousness of the misconduct is deemed to be low.	3-5 years
		Author other than that listed above		2-3 years
	3. An individual involved in misconduct other than that stipulated in 1 or 2			2-3 years
An author responsible for academic papers, etc. related to research in which there has been Specific misconduct but who was not involved in the Specific misconduct (supervisor, first author, or other position of responsibility deemed equivalent)			The impact on the advancement of research in the relevant field or society is large, and the maliciousness of the misconduct is deemed to be high.	2-3 years
			The impact on the advancement of research in the relevant field or society is small, and the maliciousness of the misconduct is deemed to be low.	1-2 years

* Limitations on participation will also be imposed in the fiscal year that the Specific misconduct is officially recognized.

（ⅲ）Measures taken to researchers whose qualification is restricted for application to and participation in competitive fund system and base expenses

Qualification is restricted for application to and participation in this project by researchers whose qualifications are restricted for application to and participation in competitive fund systems related to Ministry of Education, Culture, Sports, Science and Technology; management grant to national university corporations, university joint use organization corporations and independent corporations under the ministry; base expenses including private school subsidies; or competitive fund systems related to other ministries during the period while the restriction is in effect.

（ⅳ）Public announcement of misconducts

In principle, JST makes a public announcement with regard to the outline of a pertinent misconduct in research activities of this project (name of researcher, project name, affiliation, research year, contents of misconduct, and measures taken). Ministry of Education, Culture, Sports, Science and Technology also makes a public announcement concerning the contents of the pertinent misconduct (name of misconduct, measures taken by research organization, measures taken by fund distributor, and so on).

The captioned guidelines state that a research organization announces the survey result immediately. Each organization is requested to handle the case accordingly.

http://www.mext.go.jp/a_menu/jinzai/fusei/1360483.htm

10. Measures for Protecting Civil Rights and Complying with Laws and Regulations

In the case that, in implementing a research initiative, the initiative involves research requiring the consent/cooperation of other parties, research requiring particular care in handling personal information, research requiring bioethical or safety measures to be taken, and other research requiring procedures required by laws and regulations, be sure to carry out the necessary procedures, such as obtaining the approval of an external and internal ethics committee of a research institution. If research activities are conducted overseas or collaborative research activities with institutions overseas are conducted, please confirm the regulations and laws in advance adhere to them.

With regard to life science-related research in particular, the main laws and regulations prescribed by each government ministry are as follows. Please note that, depending on the research content, there are also cases in which laws and regulations other than these have been established.

- Act on Regulation of Human Cloning Techniques (Act No. 31 of 2014)
- Guidelines for Handling of a Specified Embryo (Public Notice of Ministry of Education, Culture, Sports, Science and Technology No. 83 of 2009)
- Guidelines on the Distribution and Utilization of Human Embryonic Stem Cells (Public Notice of Ministry of Education, Culture, Sports, Science and Technology/ Ministry of Health, Labour and Welfare No. 174 of 2014)
- Guidelines on the Derivation of Human Embryonic Stem Cells (Public Notice of Ministry of Education, Culture, Sports, Science and Technology / Ministry of Health, Labour and Welfare No. 2 of 2014)
- Ethical Guidelines for Human Genome/Gene Analysis Research (Public Notice of Ministry of Education, Culture, Sports, Science and Technology/ Ministry of Health, Labour and Welfare/ Ministry of Economy, Trade and Industry No. 1 of 2001)
- Ethical Guidelines for Epidemiological Research (Public Notice of Ministry of Education, Culture, Sports, Science and Technology/ Ministry of Health, Labour and Welfare No. 1 of 2007)
- Guidelines for Gene Therapy Clinical Research (Public Notice of Ministry of Health, Labour and Welfare No. 344 of 2015)
- Ethical Guidelines for Clinical Studies (Public Notice of Ministry of Health, Labour and Welfare No. 415 of 2008)
- R&D Using Human Tissue Extracted during Operations, Etc. (Report of the Health Science Council 1998)
- Ministerial Ordinance on Good Clinical Practice for Drugs (Ordinance of Ministry of Health, Labour and Welfare No. 9 of 2016)
- Act on the Conservation and Sustainable Use of Biological Diversity through Regulations on the Use of Living Modified Organisms (Act No. 70 of 2016)
- Ethical Guidelines for Medical and Health Research Involving Human Subjects (Public Notice of the Ministry of Education, Culture, Sports, Science and Technology and the Ministry of Health, Labor and Welfare No.3 of 2014)
- Laws and regulations on access or distribution of hereditary resources in each country

For information regarding Ministry of Education, Culture, Sports, Science and Technology measures on bioethics and safety assurance, please refer to the following website.

Life Sciences no Hiroba "Measures on Bioethics and Safety Assurance"(only in Japanese)
http://www.lifescience.mext.go.jp/bioethics/index.html

In the case that the research plan includes research or surveys that require consent/cooperation of other parties and/or social consensus, be sure to take appropriate measures for protecting civil rights and interests prior to applying to this program.

11. Security Export Control (Measures against the Leakage of Technology Internationally)

○   Many cutting-edge technologies are studied at research institutions. Universities in particular have seen an increase in the number of international students and foreign researchers due to internationalization, and there is an increasing risk of cutting-edge technologies and/or research materials/equipment being leaked or used for bad purposes such as the development and production of weapons of mass destruction. For this reason, in carrying out their various research activities, including the relevant contract research, research institutions are required to take organizational measures to ensure that research results that could be used for military purposes do not fall into the hands of people who could carry out fearful activities such as developers of weapons of mass destruction or terrorist groups.

○   In Japan there are export controls[*] based on the Foreign Exchange and Foreign Trade Act (Act No. 228 of 1949) (hereinafter referred to as the "Foreign Exchange Act"). Accordingly, when attempting to export (provide) goods or technologies controlled by the Foreign Exchange Act, as a general rule it is necessary to obtain the license of the Minister of Economy, Trade and Industry. Be sure to comply with the Foreign Exchange Act and other laws, ministerial ordinances, and notices issued by government ministries and agencies.

    [*] Currently, Japan's security export control system mainly comprises two systems based on international consensus: (1) systems under which the license of the Minister of Economy, Trade and Industry is required as a general rule when attempting to export (provide) goods (technologies) with specifications/functions that are above certain criteria, such as carbon fibers or numerically-controlled machine tools (list control); and (2) systems under which the license of the Minister of Economy, Trade and Industry is required when attempting to export (provide) goods (technologies) to which list controls do not apply and certain requirements (use application requirements, end-user requirements, and notification (inform) requirements) have been met (catch-all control).

○   Not only the export of goods but also the provision of technology is subject to Foreign Exchange Act controls. When providing list control technologies to foreigners (non-residents), license to provide the information must be obtained in advance. "Technology provision" includes the provision of technology information such as blueprints, specifications, manuals, specimens, and prototypes by means of storage media such as paper, e-mail, CD, and USB memory, and also includes the provision of operational knowledge through technical guidance and skills training as well as technological support through seminars. There are also cases in which technology provision includes a large amount of technology exchange that could be subject to Foreign Exchange Act controls in the acceptance of international students and joint research activities.

○   Detailed information about security export control is provided on the website of the Japanese Ministry of Economy, Trade and Industry (METI) and other organizations. Please see the list below for details.
- Ministry of Economy, Trade and Industry (METI)：Security export control (general)
http://www.meti.go.jp/policy/anpo/englishpage.html
- Ministry of Economy, Trade and Industry (METI)：Security Export Handbook
http://www.meti.go.jp/policy/anpo/seminer/shiryo/handbook.pdf
- Center for Information on Security Trade Control
http://www.cistec.or.jp/english/index.html
- Guidance on machine technology control in relation to security export control (for universities/ research institutions)
http://www.meti.go.jp/policy/anpo/law_document/tutatu/t07sonota/t07sonota_jishukanri03.pdf

12. Cooperation with the National Bioscience Database Center

   The National Bioscience Database Center (NBDC*) hosts the Life Science Database Archive (http://dbarchive.biosciencedbc.jp), an archive that provides access to wholly downloadable datasets generated by researchers in Japan in the life sciences. Another hosted database is the NBDC Human Database (http://humandbs.biosciencedbc.jp), a platform for sharing various human data produced from human-derived specimens such as human genome data.
   We ask all researchers to provide NBDC with their data for publishing on the Life Science Database Archive and the NBDC Human Database so that data results from your life sciences research may be used extensively for a long time.

   *The National Bioscience Database Center (http://biosciencedbc.jp/en/) researches, develops, and provides
   services for integrating and easily accessing life sciences databases generated in Japan. The objective is to
   stimulate research and development through extensive sharing and broad use of research data.

Contact information
Japan Science and Technology Agency
The National Bioscience Database Center (NBDC)
Life Science Database Archive contact: dbarchive@biosciencedbc.jp
Human Database contact: humandbs@biosciencedbc.jp

13 . Regarding Registration with researchmap

   The strategic basic research programs (ERATO, CREST, PRESTO, ACT-I) plans to use researchmap as a master database of research record information and in the future to use it in all sorts of situations, such as research record reports and so on. In addition, the community function of researchmap is used for utilization in project management, including distribution of various files and event notices. Because registration in researchmap of researchers whose proposals are adopted is necessary for the purposes, those who have not are requested to make the registration soon.
Information registered in researchmap is effectively utilized for surveying national plans of academic, scientific, and the technological policies and statistical objectives. Register and update achievement information and the like in researchmap.

   Researchmap (formerly called "ReaD&Researchmap" (*), http://researchmap.jp/?lang=english) is a largest database of approximately 256,000 registered researchers as of January 2017. The information registered by the researcher on his/her research track records can optionally be made accessible to the Internet. Additionally, the compatibility of researchmap with other systems, which enable seamless access to its registered information, allows it to link with e-Rad and many university faculty databases, thereby saving researchers from repetitiously entering the same research record information on multiple applications and databases.

14 . About the use of JREC-IN Portal

   The database of research human resources (JREC-IN https://urecinjst.go.jp/) is a largest website to support research human resources in Japan. It is a free service to carry information on human resources including researchers, their supporter, engineers involved in research for glancing.
   At present, it annually carries more 16,000 pieces of information on wanted human resources by universities, public research organizations, and private business firms in addition to more than 100 thousand registered users. Utilize JREC-IN Portal by all means when looking for research human resources (post doctors, researchers, and so on) with high levels of knowledge to promote research projects.
   Furthermore, JREC-IN Portal collaborates with researchmap. It may be logged in by ID or password of researchmap. Its functions for the preparation of resumes and achievement lists may use information

registered in researchmap to prepare these documents.

15. Efficient promotion of research and development through effective use of currently available research facilities and equipment

The Ministry of Education, Culture, Sports, Science and Technology is promoting the development of the grounds for sharing research institutes and facilities and integrating different research fields in accordance with the Act on the Promotion of Public Utilization of the Specific Advance Large Research Facilities (Act No. 78, 1994); the Act on Enhancement of Research and Development Capacity and Efficient Promotion, etc., of Research and Development, etc., by Advancement of Research and Development System Reform (Act No. 63, 2008); and other laws. If the uses and purchases of research facilities and equipment are being considered upon the application, please consider actively using facilities and equipment owned by universities and national research and development agencies and made available to others and opportunities for cooperation among industries, academia, and the government from the perspective of effective promotion of consigned research in this program; effective use of already available facilities and equipment; and removing overlaps in purchasing facilities and equipment.

In addition, universities etc. are requested to actively promote sharing research facilities in research projects funded by competitive research funds.

<Reference: Examples of shared facilities and equipment>

Facilities covered in the Act on the Promotion of Public Utilization of the Specific Advanced Large Research Facilities
 	
(Please refer to the instructions from each facility for schedule of project proposal and other information related to utilization)
 	
SPring-8, the large synchrotron radiation facility (Application are accepted around May November every year.)
 	
   http://user.spring8.or.jp/?lang=en
 	
SACLA, an X-ray free-electron laser facility (Applications are accepted around May November every year.)
 	
   http://sacla.xfel.jp/?lang=en
 	
J-PARC, a large intensity proton accelerator (Applications are accepted around May November every year.)
 	
   http://is.j-parc.jp/uo/index_e.html
 	
High Performance Computing Infrastructure (HPCI) including the K computer
 	
   http://www.hpci-office.jp/folders/english

Projects for promoting the sharing of advanced research facilities *see URL below for information on this project, which started in 2016 fiscal. Also see URL below for information concerning ''Platform formation project for joint use of advanced research base'', which finished in 2015 fiscal.   http://www.mext.go.jp/a_menu/kagaku/shisetsu/index.htm
Nano technology platform   http://nanonet.mext.go.jp/english/
Tsukuba Innovation Arena for Nanotechnology (TIA)   http://www.tia-nano.jp/en/index.html
Project for Platform for Drug Discovery, Informatics, and Structural Life Science (four bases)   http://pford.jp/
National BioResource Project   http://www.nbrp.jp/
Japanese Experiment Module (KIBO)/ International Space Station (ISS)   http://iss.jaxa.jp/kiboexp/participation/

16 . Regarding the Results of JST's Development of Systems and Technology for Advanced Measurement and Analysis Program

○ JST implements a wide variety of research and development programs ranging from basic research to industry-academia collaborations and so on, and a great deal of these research results have been put into practical use already.

○ Among these, the development of systems and technology for advanced measurement and analysis program, which seeks to build and develop a basic research and development platform, has resulted in the practical use of many research and development tools.

○ It would be a pleasure if a researcher sees a research and development tool to be newly examined for the promotion of research and development.

Visit the Advanced Measurement website (http://www.jst.go.jp/sentan/en/index.htm) for details.

Towards the Promotion of Fair Research

The recent incidents involving misconduct and dishonesty in research activities have resulted in an alarming condition that threatens the relationship of trust between science and society, and hinders the healthy development of scientific technologies. To prevent misconduct in research activities, autonomous self-purification of the scientific community must function. Each researcher must strictly discipline him/herself and work to create new knowledge and inventions that are useful for society, based on a high moral standard to meet the expectations of society.

As a funding agency for research, the Japan Science and Technology Agency (JST) considers research misconduct a grave issue and makes every effort to prevent it in cooperation with relevant organizations, thereby aiming to regain public trust.

1. JST believes that honesty in research activities is extremely important for Japan, which seeks to develop itself through science and technology.
2. JST supports honest and responsible research activities.
3. JST strictly condemns any misconduct in research activities.
4. JST will promote education in research ethics and reform its research funding programs in cooperation with relevant organizations, in order to prevent misconduct.

We must develop a healthy scientific culture based on social trust toward building a society filled with hopes and dreams for a bright future. We therefore request the continued understanding and cooperation of the research community and related institutions.

Michinari HAMAGUCHI
President
Japan Science and Technology Agency(JST)

JST promotes Diversity!

JST promotes diversity by not only encouraging mutual respect between a diversity of human resources as they each demonstrate their abilities to the maximum, but also emphasizing the diversity of each individual's career and working style. JST generates innovation through diversity, resolving problems for future society and contributing to the strengthening of Japan's industrial competitiveness and spiritual enrichment.

Furthermore, with regard to the ''Childbirth, Child-raising, Nursing Care Support System'' (renamed the ''Childbirth, Child-raising, and Other Support System'' from FY2015), based on the voices of researchers who are users of this system, JST is contributing to the generation of innovation in Japan through the creation of an environment that enables researchers who have taken leave to return to research while also revising and improving the support system.

When inviting applications for new research projects and during the screening process, applications are also considered from the perspective of diversity. We look forward to researchers actively applying to join these programs.

Michinari HAMAGUCHI
President
Japan Science and Technology Agency(JST)

We Are Waiting for Your Application!

JST promotes diversity under the concept that diversity is a tool for understanding people who think differently from yourself and fusing your thinking with that of the other person to create new value.

While the role of women in diversity is very important, JST's diversity policies are also aimed at young researchers and researchers who have foreign citizenship. To ensure that each individual researcher is able to fully exercise their skills, JST provides continual support for researchers' childbirth, child-raising, and nursing care (for elderly relatives), and also endeavors to maintain a balanced membership composition in committees, etc.

JST diversity is aiming to open the way to a new future by responding flexibly to various problems in cooperation with many people with a diverse range of experiences and ways of thinking. JST promotes diversity for not only JST employees but for all people utilizing the JST system. We look forward to receiving your proactive application to the programs.

Miyoko WATANABE
Deputy Executive Director and Director of Office and Inclusion Department of Personnel
Department of Personnel
Japan Science and Technology Agency (JST)