



FOREST Program Overview of the Call

This is an overview only.
Please read the Application Guidelines before applying.

**Japan Science and Technology Agency,
Office of Disruptive Research**

Based on the “Research Enhancement Reform 2019”, the program supports unrestricted, challenging and fusion-oriented research not bound by the existing frameworks, while securing an environment in which researchers can devote themselves to their research

- ✓ As the global competitions for innovation supremacy grow intense, Japan’s research capabilities are in crisis. It is necessary to thoroughly reform human resources, funding, and environment, even including the systematic issues, involving universities, national research institutions, and industry. In particular, as the potential of Japan’s basic research capabilities is high, it is expected to contribute to the creation of seeds that lead to disruptive innovations. [Integrated Innovation Strategy 2019 (Cabinet decision, June 2019)]
- ✓ As the future direction of the Government R&D investment, it should focus on two research areas, namely “Strategic Research” aiming at realizing Society 5.0 and “FOREST” aiming at creating disruptive innovations through diversity and fusion without setting specific topics or short-term goals. [Japan Business Federation Proposal (April 2019)]

【Overview】

- Call for challenging research plan from independent, or planning to become independent, researchers at universities, etc.
- After review and selection, ensure maximum researcher discretion
- With the support from the affiliated universities, etc. of the researchers, secure the environment suitable for conducting FOREST

【Budget/Period】

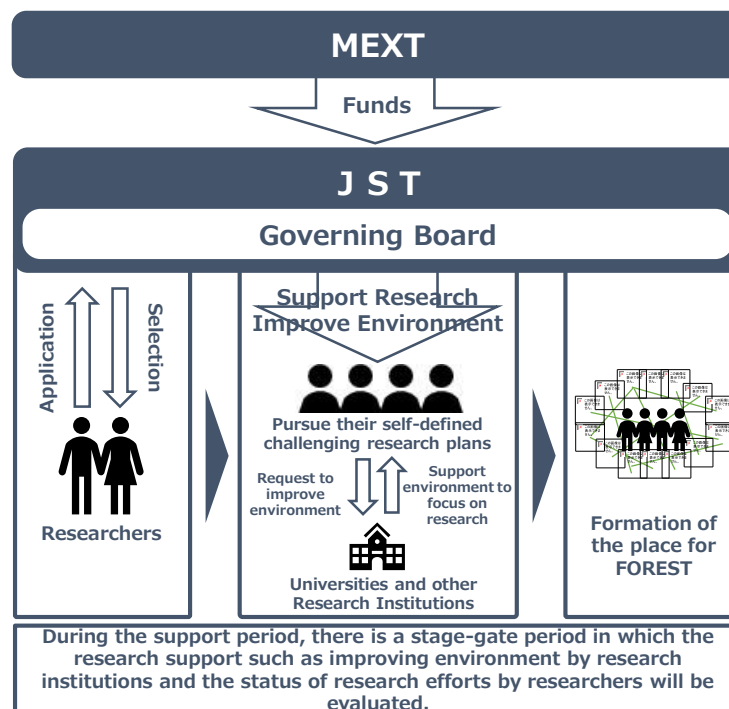
- Support amount unit: 7 million yen/year (average) & indirect costs
- Support period: 7 years (can be extended up to 10 years)
- ※ It will be managed flexibly according to the field and environment the researcher is in, for example, the use to help secure research time by reducing the administrative burden. The mobility of researchers is ensured by enabling the continued support even in the case of the change in affiliation during the support period.
- Separately, additional support to improve the research environment will also be implemented.

【Features】

- ① Targeting mainly at the variety of young researcher resources, bring together, and enable fusion among, the researchers with internationally competence and potential.
- ② Secure the research environment for researchers to focus on FOREST.
- ③ By way of ① and ② above, researchers can actively pursue their self-defined challenging research plans.

→ By maximizing ambition and research hours of excellent human resources, create outcomes that lead to disruptive innovations

【Project Scheme】





FY2020 Call Schedule

Call for Research Application Start	<u>Monday, June 1st, 2020</u>
Application Deadline (Deadline date and time for submission on the e-Rad)	<u>12:00 pm (noon)</u> <u>Friday, July 31, 2020</u> <u>[Strictly enforced]</u>
Document Screening Period	Early August to mid-November
Notification of Interview Schedule	Around September (tentative)
Notification to Interviewees	Late November to early December
Interview Screening Period	Early December to mid-January, 2021
Notification/Announcement of the Selected Projects	Sequential notification/announcement in late December and later
Research Start	Sequential start after January, 2021



Notes on Application

- ✓ Applications that have not been submitted by the specified deadline will not be considered for any reason.
- ✓ Applications cannot be replaced or changed after the submission deadline.
- ✓ Please allow plenty of time to complete the submission, as the system response may become slow due to heavy access to the e-Rad near the deadline.

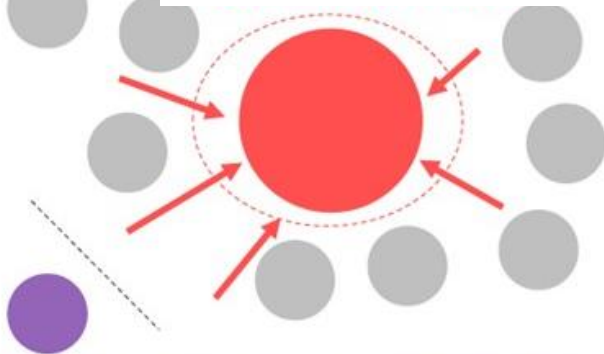


What is FOREST*?

*Fusion Oriented REsearch for disruptive Science and Technology

Selection and Focus

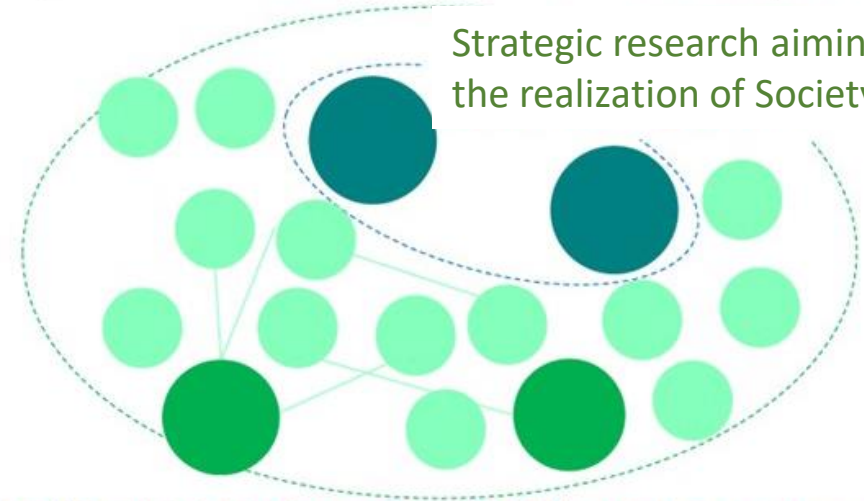
Competition is already fierce in the selected and focused areas



Disruptive innovations emerge from the areas least expected outside of the selection

Strategy and FOREST

Strategic research aiming at the realization of Society 5.0



FOREST aiming at creating disruptive innovations through diversity and fusion without setting specific projects or short-term goals

Source: Transformation to “Strategy” and “Emergence” aiming at the realization of Society 5.0 (Japan Business Federation)

What is Emergence? (from Organization Theory)

“Behavior that induces innovation beyond expectations and intentions based on certain requirements by combining the abilities and ideas of individuals”



Components of FOREST Program

Support FOREST to create seeds that lead to disruptive innovations

- ✓ Support ambitious challenges without fear of failure
 - Long-term Research Funds (7 years in principle, max 10 years)
 - Target independent, or planning to be independent, researchers
 - Support improving environment to focus on research
- ✓ Enhance diversity
 - Wide variety of research projects/researchers,
Improved international mobility
- ✓ Promotion of fusion research
 - Provide a Place for Fusion, Mentor system (FOREST PO/AD)



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Eligible Research Proposals

The program calls for a variety of challenging and original research projects, which require a long-term commitment without fear of failure, with the potential to create the seeds for disruptive innovations in any of the following categories ① through ⑤.

- ① Subject matter that is expected to uncover new scientific and technical knowledge
- ② Research in a field that should be continuously addressed from the perspective of diversity of research
- ③ Subject matter for which breakthrough and new research areas are expected to be created through the "fusion" of scientific and technical knowledge
- ④ Subject matter for which innovative technology is expected to be created
- ⑤ Subject matter that is expected to transform society and systems for the actual and widespread use of research outcomes

(excluding those related to Humanities alone)

For details, refer to “2.1.1 Eligible Research Proposals”
in the Application Guidelines



Number of Applications

- ✓ For the FY2020 call, only one application can be submitted per applicant.
- ✓ Out of 3 calls (FY2020, 2021, 2022) that this program offers, applications may only be made up to 2 times.

For details, refer to “2.1.3 Limitations on the Number of Applications” in the Application Guidelines



Basic Information

- ✓ Research Period 7 years in principle (Maximum 10 years)
Phase 1 (3 years)/Phase 2 (4 years)
Stage-gate in the 3rd year

- ✓ Research Budgets 50 million yen (Maximum)
(Direct Costs) Phase 1: 20 million yen (Maximum)
(Indirect Costs: Up to 30% of direct costs)

- ✓ Projects to be Around 200 projects
selected
(FY2020)

For details, refer to the sections 2.1.6 through 2.1.8
in the Application Guidelines



Application Requirements

- ✓ The research application must be based on the applicant's own research plan.
- ✓ The applicant must be able to conduct research independently to execute his or her own research plan.
- ✓ The applicant must have completed a research ethics education program at the affiliated research institution, or the education program offered by JST before the submission deadline.

For details, refer to “2.1.9 Application Requirements”
in the Application Guidelines



Application Requirements

(Affiliation, or History of Receiving Research Funding)

- ✓ The applicant must be affiliated with a research institution in Japan, and capable of conducting FOREST.
 - ✓ Those researchers who are not affiliated with a Japanese research institution at the time of the application may apply on the condition that they become affiliated with a research institution in Japan and start the research by April 1st, 2021. Researchers of Japanese nationality are allowed to postpone the start of the research by up to 2 years after the selection.
- ✓ The applicant must have received, or be currently receiving, research funding that can be used under his or her own responsibility and authority (research funding received as the Research Director) within the past 2 years. If there are special circumstances in which the applicant has not received research funding during the past 2 years, the reason should be clearly stated in the research application.

For details, refer to “2.1.9 Application Requirements”
in the Application Guidelines



Application Requirements (Experiences)

- ① 15 years or less since obtaining a doctorate as of April 1st, 2020
- ② Completed medical, dental, or veterinary medicine courses & clinical trainings after the doctoral program
→ 17 years or less since obtaining a doctorate as of April 1st, 2020

If there was a period in which the applicant was unable to devote to the research

- ③ A period of childbirth/childcare within 15 years (within 17 years for the case ②) since receiving a doctorate
→ 20 years or less (22 years or less for the case ②) since obtaining a doctorate as of April 1st, 2020
- ④ A period of care giving within 15 years (within 17 years for the case ②) since obtaining a doctorate
→ The conditions in ① and ② will be increased by the length of such period (up to 2 years)
- ★ In the case of both ③ and ④, up to 20 years or less for the case ① (22 years or less for the case ②) since obtaining a doctorate

For details, refer to “2.1.9 Application Requirements”
in the Application Guidelines



Application Requirements (Experiences)

[Examples]

Obtain doctorate

Years since obtaining doctorate



In principle



15 years or less

Childbirth



20 years or less

Experience of childbirth/childcare

Childbirth



15 years or less

Care giving



Experience of care giving



Length of care giving + 15 years or less

Experience of childbirth/childcare/care giving

Childbirth

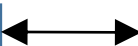


Care giving



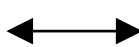
20 years or less

Clinical training



Experience of clinical training

Clinical training

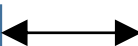


17 years or less



15 years or less

Clinical training



Childbirth



22 years or less



Application Requirements (Research Funding Duplication Restriction)

If selected to receive research funding as the Research Director

[Projects Subject to Duplication Restriction]

- Projects under the auspices of the Japan Society for the Promotion of Science
(Grants-in-Aid for Scientific Research)
Grants-in-Aid for Specially Promoted Research, Grants-in-Aid for Scientific Research on Innovative Areas
(Research in a Proposed Research Area: excluding publicly offered research, including research area representation)
Grants-in-Aid for Transformative Research Areas (A: excluding public call research, including research area representation), Fundamental Research (S)
- Projects under the auspices of the Japan Science and Technology Agency
JST-Mirai Program (Small start Type (Full-fledged research), Large-scale Type)
Strategic Basic Research Programs (ERATO, CREST, PRESTO (*))
Moonshot Research and Development Program (targeted at Project Managers)
A-STEP (Industry-academia collaboration (Full-fledged type, Seeds nurturing type))
- Projects under the auspices of the Japan Agency for Medical Research and Development
Advanced Research and Development Programs for Medical Innovation (LEAP, AMED-CREST, PRIME (*))
- Projects under the auspices of the New Energy and Industrial Technology Development Organization (NEDO)
Moonshot Research and Development Program (targeted at Project Managers)
- Projects under the auspices of the National Agriculture and Food Research Institute
Bio-oriented Technology Research Advancement Institution (BRAIN)
Moonshot Research and Development Program (targeted at Project Managers)



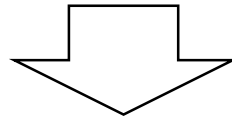
Application Requirements (Research Funding Duplication Restriction)

For the Projects Subject to Duplication Restriction

If the research is scheduled to be completed
by the end of March, 2021

For JST-PRESTO & AMED-PRIME

If the research is scheduled to be completed
by the end of March, 2022



Permitted to apply for FOREST for this fiscal year
Commence research after the completion
of the Projects Subject to Duplication Restriction

For details, refer to “2.1.9 Application Requirements”
in the Application Guidelines



Conditions for Independence

The following conditions for independence must be met when applying, or, will be met during Phase 1 (3 years):

- ✓ Must be in the position of a corresponding author of the paper for the applicant's own research;
- ✓ Must have responsibility for, or be in a position to have responsibility for, the guidance of graduate students, etc.;
- ✓ Must be the person in charge of the research group when the research is conducted by forming a research group; and
- ✓ Must have a laboratory (*).

* Must be responsible for the management of the research facilities and laboratory rooms required for conducting independent research.

For details, refer to "2.1.9 Application Requirements"
in the Application Guidelines



Conditions to be met within 3 years after the selection

- ✓ Although it is possible to apply without currently meeting the conditions for independence, if the conditions are not met at the time of screening, the future prospectus and desire to become independent will be checked and the selection will be made on the condition of making the utmost effort.
- ✓ The stage-gate review in the 3rd year will evaluate whether or not to continue supporting the research not only based on the conditions for independence but also from the overall perspective.

For details, refer to “2.1.9 Application Requirements”
in the Application Guidelines and the FAQ



Selection Perspective

- ✓ It is consistent with the objectives of the program;
- ✓ The research application is eligible for this call for applications;
- ✓ The research application is based on the applicant's own ideas;
- ✓ The applicant has the willingness to execute the research plan, and it feels feasible;
- ✓ The applicant has the necessary research capabilities and systems;

Continued



Selection Perspective

- ✓ The applicant will contribute to the development of emerging and integrated fields and the continuous progress of the related research fields through the activities to execute the research plan and the efforts for discussions and mutual inspirations with other researchers;
- ✓ The applicant is willing to request cooperation from, or coordinate with, research institutions as necessary to ensure a research environment suitable for conducting Fusion Oriented Research; and
- ✓ The applicant is expected to become independent (within 3 years), and it is highly likely to happen.

For details, refer to “2.2.1 Selection Perspective”
in the Application Guidelines



Research Budget Usage

- ✓ The maximum expenditure for expenses for outsourcing non-research work (buyout expenses) is, in principle, 1,400,000 yen per year.
- ✓ The maximum expenditure for personnel expenses of the individual researcher is, in principle, 700,000 yen per year.
- ✓ The maximum expenditure for the sum of the expenses above is 2,100,000 yen per year within the limit of the effort allocated to this program.
- ✓ When making expenditure for applicable expenses, please make sure to check a separate Administrative Procedures Manual which sets forth the requirements and necessary procedures.

For details, refer to “3.1.3 Research Budget” in the Application Guidelines and the Administrative Procedure Manual (in preparation).



Support to Improve Research Environment

- ✓ This program aims to secure an appropriate research environment suitable for the execution of FOREST with the support of the affiliated research institutions of each researcher.

Example: shared use of the facilities, securing research hours, and environment to enable devotion to research

- ✓ For those affiliated institutions that have provided proactive and excellent support for securing a research environment in which the researchers supported by this program can concentrate on FOREST, there is a plan to provide additional support, upon review, to improve the research environment surrounding those research institutions.

For details, refer to “3.2.2 Securing Research Environment”
in the Application Guidelines



Place for Fusion & FOREST PO/AD

- ✓ The selected researchers will participate/present/discuss/manage/etc. in the “Place for Fusion*” which will be held regularly to initiate emergence.
* inspiring knowledge, promoting research fusion, and building network
- ✓ FOREST Program Officers and FOREST Advisors provide guidance and progress management to maximize the outcome.

What is Emergence (the basic concept of FOREST)?

(from Organization Theory)

“Behavior that induces innovation beyond expectations and intentions based on certain requirements by combining the abilities and ideas of individuals”

For details, refer to “3.2.3 Formation of the Place for Fusion”
in the Application Guidelines



Other Notes

- ✓ When applying, please check the notes described in the “Chapter 4: Notes on Application” in the Application Guidelines.
- ✓ Applications for this program are accepted on the Cross-ministerial R&D Management System (e-Rad). Please check Chapter 5 in the Application Guidelines which explains how to apply using the e-Rad and related notes.



Other Notices

(Collaboration with High Energy Accelerator Research Organization)

- ✓ Research projects under the FOREST Program are entitled to the priority use of the facilities at High Energy Accelerator Research Organization, etc.

- ✓ Facility usage fee:
 - Standard Performance Beamline - 12,800 yen/hour
 - Advanced Performance Beamline - 25,600 yen/hour

- ✓ For details: <https://www2.kek.jp/imss/pf/use/program/>

- ✓ Advice on projects suitable for multi-probe applications is available from the Center for Integrative Quantum Beam Science, High Energy Accelerator Research Organization.

- ✓ For details: <https://www2.kek.jp/imss/ciqus/>



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Contact and Inquiries about Application and Selection

Information throughout the application and selection period can be found on the application website of the FOREST Program.

<https://www.jst.go.jp/souhatsu/call/index.html>

If you have any questions, please contact the inquiry desk listed on the application website.

souhatsu-application @ jst.go.jp