

# Application Procedures for Grants-in-Aid for Scientific Research - KAKENHI -

## FY2022

Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))

This English version is provided for convenience of prospective KAKENHI applicants who experience difficulty in reading the Japanese original, which should be referred to, in case of dispute.

April 1, 2022

Japan Society for the Promotion of Science (https://www.jsps.go.jp/)

## Introduction

This document describes the procedures and other matters relevant to the "Call for Proposals for the Grants-in-Aid for Scientific Research-KAKENHI- for FY2022", including "Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))" (hereinafter referred to as "Fostering Joint International Research (B)").

#### The contents are:

- I Outline of the Grants-in-Aid for Scientific Research-KAKENHI-
- **II** Call for Proposals
- **III** Instructions for Prospective Applicants
- **IV** Instructions for Grant Recipients
- V Instructions for Administrative Staff of Research Institution(Omitted)
- VI Other Relevant Issues

"II Call for Proposals" provides for each of the Research Categories, such basic issues as the subjects in the research categories to be called, the range of envisaged total budget, a project period, etc. The schedule from the call for proposals, through the proposal submission and the review, to the grant delivery is also described.

The subsequent sections, "III Instructions for Prospective Applicants", "IV Instructions for Grant Recipients" and "V Instructions for Administrative Staff of Research Institution" describe the conditions for application, required procedures, and other matters, to be followed by the respective actors. Relevant actors are requested to thoroughly check the related chapters.

The major changes in the call for proposals for FY2022 are listed on the following pages.

- Grants-in-Aid for Scientific Research is a competitive research funding intended to provide financial support for creative and pioneering research conducted by individual researchers. Therefore, the contents of the Research Proposal Document must be original planned by the applicant.
  - In preparing Research Proposal Document, plagiarism and/or misappropriation of the research contents of others are strictly impermissible. Applicants must comply with research ethics.
- The research using the KAKENHI fund should be carried out by the researcher(s)' own initiative and responsibility. Therefore, the implementation of a KAKENHI research project and publication of the research results are solely attributed to the researcher(s)' responsibility and view, and do not reflect that of the funding sector nor of the government.
- To ensure the quality of scientific knowledge and to gain trust of society on scientists and scientific communities, it is essential to exercise fair and conscientious research activities with the adherence to the code of conduct for scientists. Applicants must understand and practice the contents of both the statement "Code of Conduct for Scientists -Revised Version-" (section I. "Responsibilities of Scientists") by the Science Council of Japan and the booklet "For the Sound Development of Science The Attitude of a Conscientious Scientist -" (especially section I "What Is a Responsible Research Activity?") issued by the Japan Society for the Promotion of Science (JSPS).

## < Major Changes for Call for Proposals in Fiscal Year 2022 >

(1) Revision of application requirements of early-career researchers participating as project team (Principal Investigator, Co-Investigators)

O The transition period for transitional measures under the "Early-Career Scientists" category enabling non-Ph.D. researchers of age 39 or under to apply for KAKENHI grants has ended. Accordingly, the only those who have acquired his/her Ph.D. within the last 8 years as of April 1, 2022, or those who have taken maternity and/or childcare leaves after Ph.D. acquisition and the accumulated period since the acquisition of Ph.D. excluding the periods of such leaves is less than 8 years as of April 1, 2022, are eligible to participate in the project team (as Principal Investigator or Co-Investigator) to as early-career researchers. (See page 18)

(2) Research grants to be allocated after official grant decisions

The method of official grant decisions for research grants in this research category has been changed from the conventional method of submitting applications for grant delivery every fiscal year within the applied budget, to a method of official grant decisions for the total grant for the entire research period to be made in the first fiscal year, as with other KAKENHI (Multi-year Fund).

## (3) Research Integrity

In response to the "Policy for Securement of Research Integrity" (April 27, 2021, Decision of Council for Science, Technology and Innovation), JSPS is taking necessary measures to ensure the transparency of research activities.

(Key Actions)

- It is explicitly stated that applicants must declare not only acquisition of other domestic competitive research funding but also any foreign research funding in "The Status of Application and Acquisition of Research Grants" column in the Research Proposal Document.
- Applicants must enter the affiliated institution and position in applying for and acquiring research grants for the research project entered in "The Status of Application and Acquisition of Research Grants" column in the Research Proposal Document.
- Research Proposal Documents should be submitted after appropriately sharing with their affiliated research institutions under their rules, the status of all research activities that the applicant is engaged in. If the applicant plans to

handle any technology regulated by the Foreign Exchange and Foreign Trade Act of Japan (Act No. 228 of 1949), he/she must abide by said Act and the rules, etc. of his/her affiliated research institution, and thoroughly check how to handle such technology prior to submitting the Research Proposal Document.

Note that untruthful statement or misrepresentation in the Research Proposal Document may result in cancellation or reduction of the research grant

## (4) Change of name starting from FY2023 Call for Proposals

• Starting from FY2023 Call for Proposals, the name "Fostering Joint International Research (B)" will be changed to "International Collaborative Research." For details, please also see the following documentation:

oReference Material for the 11th term meeting of the Subdivision on Grants-in-Aid for Research, Science Division, Council for Science and Technology URL: https://www.mext.go.jp/b menu/shingi/gijyutu/gijyutu4/050/siryo/1422729 00004.htm

## (5) Request for Participation in the KAKENHI Peer-review Process

It is re-emphasized that positive acceptance of invitation to serve as KAKENHI reviewer is the responsibility of researchers. Supporting the peer-review system of KAKENHI by the whole body of researchers by appropriate sharing of the burden of proposal review is crucial in sustaining the curiosity-driven research. (See page 52)

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## (Reference1)

Procedures on the Handling of Grants-in-Aid for Scientific Research (Omitted)

## (Reference2)

Procedures on the Handling of JSPS Grants-in-Aid for Scientific Research (KAKENHI (Multi-year Fund)) (Omitted)

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### [References]

The application forms (Research Proposal Document) and other application materials are contained in separate files. Please refer to "Supplementary edition to the Application Procedures for Grants-in-Aid for Scientific Research-KAKENHI- for FY2021 (Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))) (Forms/Procedures for Preparing and Entering a Research Proposal Document).

\* The application forms (Research Proposal Document) and other application materials can be downloaded from the JSPS website (cf. URL below).

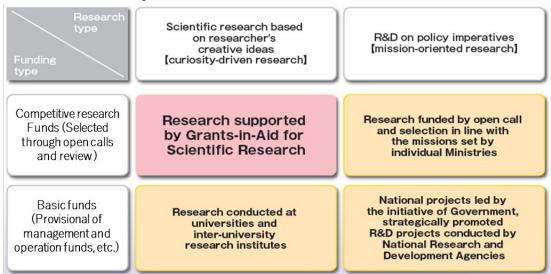
(URL) https://www.jsps.go.jp/j-grantsinaid/35 kokusai/04 kyoudoub/download.html

## I. Outline of the Grants-in-Aid for Scientific Research-KAKENHI-

### 1. Purpose and Character of Grants-in-Aid for Scientific Research-KAKENHI-

Grants-in-Aid for Scientific Research (hereinafter referred to as "KAKENHI") are competitive research funds that are intended to promote development of scientific research (based on original ideas of researchers), encompassing basic to applied researches in all fields ranging from humanities and social sciences to natural sciences. The grants provide financial support for creative and pioneering research projects that will become the foundation of social development. The research projects are selected by peer-review process.

## <The placement of "KAKENHI" in the policy on the promotion of science, technology and scientific research in Japan>



### 2. Research Categories

Different research categories of KAKENHI listed below are provided so as to meet the variety of the research content and budget scale.

❖ As of April 2022

Research categories	Research categories Purposes and description of each research category				
Grants-in-Aid for Scientific Research					
Grant-in-Aid for Specially Promoted Research	Outstanding and distinctive research conducted by one or a relatively small number of researchers expected to achieve remarkably excellent research results that opens up a new scientific field.  The research period is 3 to 5 years. (In a truly necessary case, period up to 7 years is acceptable.) The budget ranges from 200 million to 500 million yen per project (Only in a truly necessary case, budget exceeding 500 million yen is asked for.).	SG			
Grant-in-Aid for Scientific Research on Innovative Areas (Research in a Proposed Research Area)	This category is intended to foster novel research areas proposed by diverse groups of researchers that are expected to lead to development and heightening of Japan's research level in the respective fields, to be conducted by collective research efforts through collaboration, scholarly training, shared use of equipment, etc.  The period is 5 years. The budget range is generally set between 10 million to 300 million yen per fiscal year per proposed area.  [A call for proposals for "Publicly Offered Research" in the on-going research areas only is put out in FY2020 and beyond.]	SG			

Grant-in-Aid for Transformative Research Area	<ul> <li>(A) Research areas proposed through co-creative and interdisciplinary efforts of diverse researchers, which aim to create research areas that will lead the way to radical transformation of and change in the existing framework and/or direction of research as well as upgrade and level-up of scientific research in Japan and nurturing young researchers, and will contribute to the development of the proposed research areas through efforts for joint research and shared use of equipment, etc. (5 years; more than 50 million yen and up to 300 million yen per fiscal year per research area (In a truly necessary case, a budget exceeding 300 million yen may be requested.))</li> <li>(B) Research areas proposed by compact groups of researchers who will be bearers of the next generation of research with a smaller budget scale (about 3 or 4 groups), which aim to create research areas that will lead the way to radical transformation of and change in the existing framework and/or direction of research as well as upgrade and level-up of scientific research in Japan through more challenging and exploratory research, and expected to lead to the Transformative Research Areas (A) in the future. (3 years; 50 million yen or less per fiscal year per research area)</li> </ul>	s	G	
Grant-in-Aid for Scientific Research				
		(C)	MF	
Grant-in-Aid for Challenging Research (Pioneering/Exploratory)	Research conducted by a single or multiple researchers that aims at radically transforming the existing research framework and/or changing the research direction and has a potential of rapid development.  The scope of the (Exploratory) category encompasses research proposals that are highly exploratory and/or are in their budding stages.  (Pioneering) 3 to 6 years; 5 million to 20 million yen (Exploratory) 2 to 3 years; 5 million yen or less	MF		
Grant-in-Aid for Early-Career Scientists	Research conducted by an individual researcher (*2) who is less than 8 years after Ph.D. acquisition.  2 to 5 years; 5 million yen or less	MF		
Grant-in-Aid for Research Activity Start-up	Research conducted by a single researcher who has been freshly appointed to a research position, or who has returned from his/her maternity, childcare or other kinds of leave.  Up to 2 years; Up to 1.5 million per fiscal year	MF		
Grant-in-Aid for Encouragement of Scientists	Research conducted by an individual who is ineligible for application for other KAKENHI categories (e.g., individuals who belong to educational or research institutions, private companies, etc. and engage in the researches to contribute to the promotion of the science).  1 year; 100 thousand to 1 million yen			
Grant-in-Aid for Special Purposes	Research projects of pressing urgency and importance.	M	IF	
Grant-in-Aid for Publication Publication of Research Results	n of Scientific Research Results  Subsidy for publication and/or international dissemination of research achievements of high academic values executed by academic associations and other organizations.			
Enhancement of International Dissemination of Information	Subsidy for efforts by academic societies and other scholarly organizations to strengthen international dissemination of academic information for the purpose of international academic exchange.	S	G	
Scientific Literature  Databases	Subsidy for academic publication of research results (books) authored by an individual or a group of researchers.  Subsidy for creation and operation of a database open to public use by an individual or a group of researchers.			
Grant-in-Aid for JSPS Fellows	Funding period is up to 3 years for research conducted by JSPS Fellows (including Foreign JSPS Fellows). As for Cross-border Postdoctoral Fellowship (CDP) the period is up to 5 years	S	G	

International Leading	Joint International Research	
Research	This grant aims to enable research groups led by top-level researchers in our country to play a central role in the international network, thereby achieving research results of high scientific value internationally. With the participation of postdoctoral fellows and graduate students, the grant seeks to foster researchers who can play leading roles in the international research community in the future.	
	(7 years (extendable up to 10 years); up to 500 million yen)	
Fostering Joint International Research	<ul> <li>(A) Support of joint international research project conducted by a KAKENHI grantee in collaboration with researcher(s) at a foreign university or a research institution over a period of 6 to 12 months. The grant seeks to markedly advance research plans for the root research project and to foster independent researchers who can be internationally competitive. (The budget is up to 12 million yen.) [The category name is changed from FY2018 call for proposals.]</li> <li>(B) Support of joint international research project conducted by multiple domestic researchers and a researcher who belongs to overseas research institution. In addition to the development of scientific research, the grant seeks to build out infrastructure of joint international research or further strengthen joint international research and to foster researchers who can be internationally competitive. (The period is 3 to 6 years. The budget is up to 20 million yen.)</li> </ul>	MF
International Activities	Support of international activities within Scientific Research on Innovative Areas.	
Supporting Group	(Set period of the Area, up to 15 million yen per fiscal year) [After FY2018 call for proposals "International Activities Supporting Group" has been incorporated into "Grant-in-Aid for Scientific Research on Innovative Areas "Administrative Group." (It continued until the FY2019 call for proposals.)]	
Home-Returning	Support of research to be conducted by a Japanese researcher with current affiliation	
Researcher	abroad who is to be newly appointed at university or research institution in Japan.	
Development Research	(The period is up to 3 years. The budget is up to 50 million yen.)	

<sup>\*1</sup> SG: Series of Single-year Grants, MF: Multi-year Fund

## 3. Role Sharing Between MEXT and JSPS

Up to FY 1998, all aspects of KAKENHI funding were handled by the Ministry of Education (the predecessor of MEXT). From FY1999 on, these tasks have been gradually transferred to JSPS. The current role-sharing between MEXT and JSPS is as shown below.

❖ As of April 2022

		Grant delivery
Research category	Call for proposals, Review  Preparation of the document(s) for procedures, Reception of proposal submission	Notifications of unofficial decision Reception of the application form (after unofficial decision) and other documents for the relevant procedures. Notification of grant decision
Scientific Research on Innovative Areas, Transformative Research Areas, Special Purposes, Fund for the Promotion of Joint International Research (International Activities Supporting Group)	MEXT	JSPS
Specially Promoted Research, Scientific Research, Challenging Exploratory Research, Challenging Research, Early-Career Scientists, Research Activity Start-up, Encouragement of Scientists, Publication of Scientific Research Results, JSPS Research Fellow, Fund for the Promotion of Joint International Research (International Leading Research, Fostering Joint International Research	JSPS	JSPS

<sup>\*2</sup> Individuals who are in the prospect of acquiring Ph.D. are also eligible. When counting the years after Ph.D. acquisition, the period of maternity leave and childcare leave can be excluded.

Home-Returning Researcher Development Research),	JSPS	JSPS
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## 4. Rules Pertaining to KAKENHI

Fostering Joint International Research (B) is founded by KAKENHI (Multi-year Fund). Multi-year Funds are governed by the laws and regulations including Act on Regulation of Execution of Budget Pertaining to Subsidies, etc. and the application of the "Basic Policy on the Management of the KAKENHI (Multi-year Fund) (Decision by the Minister of Education, Culture, Sports, Science and Technology)", the "Procedures on the Handling of JSPS Grants-in-Aid for Scientific Research (KAKENHI (Multi-year Fund))" (Act No. 19, 2011) and other rules.

### (1) Three Types of Rules Pertaining to KAKENHI

The following three sets of rules pertain to various aspects of KAKENHI.

- i) Application Rules: rules concerning the submission of research proposals
- ii) Assessment Rules: rules concerning the pre-assessment (review) of applications, and rules concerning the interim, and other progress assessment of granted projects.
- iii) Spending Rules: rules concerning the use of KAKENHI

These three sets of rules apply as follows.

	Application Rules	Assessment Rules	Spending Rules
KAKENHI (Multi-year Fund)	JSPS Application Procedures	JSPS Rules concerning the review and assessment for Grants-in-Aid for Scientific Research	JSPS  For researchers: Funding conditions  For research institutions: Administrative work and other tasks concerning the use of Grants-in-Aid for Scientific Research (KAKENHI (Multi-year Fund)), to be performed by each research institution

#### (2) Appropriate Use of KAKENHI

KAKENHI are funded by the tax of citizens and other sources, so please ensure that the KAKENHI is used efficiently and effectively, for example through planning for the communal use of purchased items.

Researchers receiving the KAKENHI have a duty to comply with the related laws, regulations and spending rules by researchers (supplementary conditions or funding conditions), and also to use such grants appropriately. To facilitate the appropriate use of KAKENHI, research institutions to which the researchers belong are responsible for the management of KAKENHI. The Administrative work that each research institution is required to carry out (rules for use for institutions) is determined by JSPS. The research institutions are responsible for the appropriate accounting of KAKENHI. It is desirable, for example, to set up an accounting system for proper management of KAKENHI budget and expenditure, purchase order and delivery inspection, and internal auditing. To prevent improper business transactions, it is important, in addition to appropriate delivery inspections, to make all traders thoroughly informed of the KAKENHI rules and thus obtain cooperation of traders in the prevention of this kind of fraudulent accounting. Research institutions should take rigorous measures so as to eliminate business malpractice.

KAKENHI applicants and their research institutions must have full understanding of the KAKENHI rules prior to the submission of their research proposals.

## (3) Important Note for the Use of KAKENHI (Multi-year Fund)

<u>The KAKENHI (Multi-year Fund) is</u> handled as single funding for the whole research period. Therefore, it is possible to use the grant to cover the expenditures extending over fiscal year boundaries.

Moreover, if an amount of grant remains unused by the end of a fiscal year, it can be carried over to the successive fiscal year(s) as long as they are within the overall research period, without going through prior authorization procedures. In case such a grant carry-over becomes necessary in the final year of the research period, the grantee may choose to request an official approval of

one-year extension of the research period.

#### (4) Penalty for Non-submission of "Report on the Research Achievements"

- i) The "Report on the Research Achievements" plays the important role in making the achievements of the research funded by the KAKENHI widely known to the public, and thereby returning the outcome of KAKENHI supported by citizens' tax, to the society.

  The contents of the "Report on the Research Achievements" submitted by KAKENHI grantees are compiled and made available to the public on the "Grants-in-Aid for Scientific Research Database" (KAKEN) of the National Institute of Informatics and other platforms. "Report on the Research Achievements" should be submitted via the research institution to which the KAKENHI grantees belong.
- ii) No KAKENHI grant will be awarded to a researcher who failed to submit the "Report on the Research Achievements" at the end of his/her research period without any justifiable reason. If such a non-compliance case is uncovered, the decision of grant award to the researcher in question may be cancelled, the on-going grant may be suspended, and return of the delivered grant may be ordered. In addition, relevant information, such as the name of the research institution to which the researcher in question belongs, may be made public.

  Furthermore, if researchers have failed to submit the scheduled report on the research achievements without justifiable reason, then execution of other KAKENHI implemented in the same fiscal year will be suspended. Therefore, it is the responsibility of the representative of the research institution to ensure that the report on the research achievements is submitted without fail.

#### (5) Penalty for the Case of Infringement of Related Laws and Regulations

If there have been serious falsehoods in the application documents, or violation of relevant laws, regulations and guidelines, the delivery of KAKENHI may be suspended or cancelled.

## 5. "Guidelines on the Proper Implementation of Competitive Research Funds," etc.

The "Guidelines on the Proper Implementation of Competitive Research Funds" (Agreement of the Liaison Meeting of Related Offices and Ministries on Competitive Research Funds, September 9, 2005; revised December 17, 2021) states common understandings among the research-related ministries and offices in regard to allocation of competitive research funds, in terms of elimination of such inappropriate practices as unreasonable duplication and/or excessive overconcentration in the grant allocation, fraudulent acquisition and/or unlawful use of grants, and misconducts in research activities. The implementation of the KAKENHI system as well as other competitive research funds scheme follows the above-mentioned "Guidelines" and other related rules. Applicants are urged to take special notice of the following points.

## (1) Elimination of Unreasonable Duplication and/or Excessive Overconcentration in the Grant Allocation

- i) Towards elimination of "Unreasonable Duplication and/or Excessive Overconcentration" (\*) of competitive research funds, relevant information on funding applications are shared among the pertinent ministries and funding agencies, making use of the Cross-ministerial Research and Development management system (e-Rad).
  - Therefore, applicants, when submitting more than one KAKENHI applications and/or other competitive research funds, are urged to prepare their application documents with due care to clearly state the differences between the project to be submitted and their other projects so as to make it clear that they do not constitute unreasonable duplication.
  - In case a particular KAKENHI application is recognized as constituting a case of unreasonable duplication and/or excessive overconcentration, that application may not be granted.
- ii) The following conducts may result in rejection of the research project, cancellation of grant, or reduction of the research budget: untruthful statement or misrepresentation in any of the entry of the status of applications and acquisitions of other competitive research funds (including those of other ministries) and other grants in the research proposal document (such as name of research grant, title of research project, research period, amount of budget, effort, affiliated institution/position upon application/acquisition of such grants, etc.); if it is found that the applicant has not appropriately shared with his/her affiliated research institution, the information necessary to ensure the transparency of all research activities that he/she is involved in, including information on research funds and side jobs, etc., as well as information on donations and information on supports other than monetary funds, for example, through the provision of facilities and/or equipment.
- iii) Inquiries on the status of acceptance of facilities and/or equipment used for the research, the status of management of such facilities/equipment, and request for other information may be made to researchers, etc.

#### (\*) Elimination of Unreasonable Duplication and Excessive Overconcentration in Grant Allocation

"Guidelines on the Proper Implementation of Competitive Research Funds" -Extract-(Agreement of the Liaison Meeting of Related Offices and Ministries on Competitive Research Funds, September 9, 2005; revised December 17, 2022)

- 2. Elimination of Unreasonable Duplication and/or Excessive Overconcentration in the Grant Allocation
- (1) Basic Policy of the Unreasonable Reduplication and Excessive Overconcentration
  - i) In the Guideline, "Unreasonable Duplication" refers to a situation where more than one competitive research fund and other research grants (all current research funds that are allocated to individual research contents, including both domestic and overseas grants-in-aid, subsidies, joint research funds, commissioned research funds, etc.; hereinafter the same) are unnecessarily and redundantly allocated to the same research project (meaning, the name and content of the research to which the competitive research funds are allocated; hereinafter the same) by the same researcher. Any of the following cases fall under "Unreasonable Duplication."
    - OCases where simultaneous applications have been made to more than one competitive research funds / other research funds for substantially the same research project, and where these research projects are redundantly adopted.
    - OCases where an application has been made again for substantively the same research project as another project that has already been adopted, and for which the allotment of competitive research funds / other research funds has already been completed.
    - OCases where there is duplication in the use of research funds among more than one research projects.
    - OOther cases corresponding to those above.
  - ii) In the Guideline, "Excessive Concentration" is a situation in which the entire research funds that are allotted to one and the same researcher or research group (hereinafter referred to as "researcher, etc.") in the fiscal year in question exceeds the limit within which they can be used effectively and efficiently, and in which the research funds cannot be used within the research period. Either of the following cases falls under "Excessive Concentration."
    - OCases where, in the light of the abilities of the researcher, etc. and the research methods, etc., excessive research funds are allotted.
    - OCases where, in comparison with the effort (the time allocation rate (%) of time necessary for the implementation of the research activities with the entire working time of researcher) that is being allotted to the research project in question, excessive research funds are allotted.
    - OCases where the purchase of unnecessarily expensive equipment is carried out.
    - Other cases corresponding to the cases mentioned above.

## (2) Dealing with "Improper Grant Spending," "Fraudulent Grant Acquisition" or "Research Misconduct"

- "Improper Grant Spending," "Fraudulent Grant Acquisition" and "Research Misconduct" refer to the following type of acts respectively.
  - "Improper Grant Spending":
    - Use of competitive research funds for other purposes, intentionally or by gross negligence, for example, by conducting fictitious business transactions ("azukekin") with a trader through fictitious order placements, or by charging costs higher than actually needed for personnel, travel expenses, etc., or use of competitive research funds in violation of the content of the funding decision or the conditions it implies.
- "Fraudulent Grant Acquisition":
  - Receiving competitive research funds by deception or other fraudulent means, for example, by applying under the name of another researcher, or by making false entries in application documents.
- "Research Misconduct":
  - Fabrication, falsification, or plagiarism of data, information, or findings published

research achievements based on the intent of the researcher, or the failing of the researcher to fulfill the basic duty of care that he/she has.

(i) No KAKENHI will be offered, for a fixed period of time, when a researcher or related party has committed an improper grant spending of KAKENHI, has committed a fraudulent grant acquisition of KAKENHI, or has committed a research misconduct. Moreover, for research projects for which it is established that an improper grant spending of grants, a fraudulent grant acquisition of grants or research misconduct has been committed, the researcher in question may be required to return the given KAKENHI completely or partially. Moreover, an outline of the improper grant spending of KAKENHI, the fraudulent grant acquisition of KAKENHI, and/or the research misconduct in question of the researcher who falls in those categories (containing an outline of the outcome of the investigation in the research institution, the names of the people involved, the name of the system, the institution they belong to, the research project, the budget, the fiscal year of the research, the fraudulent content, details of the measures taken, etc.) will be made public. Also researchers who have committed improper grant spending or fraudulent grant acquisition of competitive research funds other than the KAKENHI (including funds under the jurisdiction of other Offices and Ministries), etc., and/or has committed research misconduct by means of these competitive research funds, and therefore are excluded from receiving these funds in question for a certain period of time, will not receive the KAKENHI for the same period of time.

Note: This applies to those schemes newly starting a call for proposals in FY2022 (and onward) for "competitive research funds other than KAKENHI, etc. (including funds under the jurisdiction of other Offices and Ministries)" as well. It also applies to those schemes that ended before FY2021. Refer to the website below for the schemes to which this specifically applies at present.

URL: https://www8.cao.go.jp/cstp/compefund/kyoukin\_r2-3.pdf

### **OPeriod of KAKENHI suspension**

### [Improper Grant Spending and Fraudulent Grant Acquisition of KAKENHI]

Researcher categories	Extent of	Period of KAKENHI suspension	
I. Researchers who committed improper grant spending of KAKENHI and researchers who conspired in such acts	1. Misappropriation of	10 years	
II. Researchers who committed		(i) Cases of major seriousness and maliciousness	5 years
improper grant spending of KAKENHI and researchers	2. Other than 1.	(ii) Cases other than (i) and (iii)	2 to 4 years
who conspired in such acts		(iii) Cases of minor seriousness and maliciousness	1 year
III. Researchers who acquired KAKENHI by deception or other fraudulent means and researchers who conspired in such acts			5 years
IV. Researchers who were not directly involved in the improper grant spending of KAKENHI, but failed to exercise due care and used the funds as a result.			The upper limit is 2 years and the lower limit is 1 year depending on the degree of the breach of duty by the researchers who have the duty of care as a good manager.

For cases judged as subcritical to the punitive suspension measures, sharp reprimand is administered to the individual(s) concerned.

The following cases are pertinent to the "sharp reprimand" penalty.

- 1. Among the case II above, the researchers in case that the influence on society and the maliciousness of their conducts are judged to be insignificant and the amount of money involved is small.
- 2. Among the case IV above, the researchers in case that the influence on society and the maliciousness of their conducts are judged to be insignificant.

#### [Research Misconduct]

	Individual Involvement in the Misconducts		Negative Impacts on Science and on Public at Large Degree of Maliciousness	Period of KAKENHI Suspension
Subject of Research Misconduct		malicious individual(s) who, for exng of the research	cample, had intention of research misconduct from the	10 years
	(b) Author(s) of paper(s), etc. related to the research in which research misconduct (s) have been identified (other than (a) above)	Responsible author(s) of the paper(s) in question	Cases where it is judged that the impact on the progress of the science in the field in question and the social impact are major, or the level of maliciousness involved in the acts is high	5 to 7 years
earch Misco		author or other authors bearing equivalent responsibilities)	Cases where it is judged that the impact on the progress of the science in the field in question and the social impact are minor, or the level of maliciousness involved in the acts is low	3 to 5 years
nduct		Author(s) of the paper(s) in question other than the responsible author(s) described above		2 to 3 years
	(c) Individual(s) involved who are not the authors of the research paper(s) for which research misconduct(s) are identified.  ponsible author(s) of paper(s), (corresponding or, lead author or other authors bearing equivalent onsibilities) for which research misconduct(s) are tified, but not involved in the alleged research conduct			2 to 3 years
auth			Cases where it is judged that the impact on the progress of the science in the field in question and the social impact are major, or the level of maliciousness involved in the acts is high	2 to 3 years
ident			Cases where it is judged that the impact on the progress of the science in the field in question and the social impact are low, or the degree of severity of the acts is low	1 to 2 years

<sup>\*</sup> In cases where specific issues for extenuation such as voluntary withdrawal of the paper in question may be taken into account, the suspension period can be shortened as judged fit.

(ii) The relevant information of each Improper Grant Spending, Fraudulent Grant Acquisition of KAKENHI or Research Misconduct case may be provided to the offices of the research funding agencies (including Incorporated Administrative Agencies) under the jurisdiction of the relevant Office. Thereby the penalized researcher may be also subject to restriction in application of and/or participation to research projects in other competitive research funds other than KAKENHI.

Note: "Application and/or participation" means proposing new research projects, applying, responding to call for proposals, newly participating to research as a person involved in collective research, etc. and participating as a Principal Investigator or a person involved in collective research, etc. in research projects in progress (continued research projects).

(iii) Research institutions are required to comply with the "Guidelines on the Management and Audit of Public Research Funds at Research Institutions (Implementation Standards) (revised in February 1, 2021, adopted by MEXT) and the "Guidelines for Responding to Misconduct in Research (adopted August 26, 2014 by MEXT)." Therefore, research institutions should pay adequate attention to these two sets of Guidelines when researchers implement their research activities.

In case where the status of the system improvement in line with these guidelines is recognized

inadequate based on the survey results, the measures such as the reduction in indirect cost of all kinds of competitive research funds disbursed by MEXT or the Incorporated Administrative Agencies under the control of MEXT to the research institution(s) in question can be taken.

○ "Guidelines on the Management and Audit of Public Research Funds at Research Institutions"

URL: https://www.mext.go.jp/a menu/kansa/houkoku/1343904 21.htm

"Guidelines for Responding to Misconduct in Research"
 URL: https://www.mext.go.jp/a menu/jinzai/fusei/index.htm

Note: Examples of improper grant spending, fraudulent grant acquisition and research misconduct of KAKENHI.

#### O Improper grant spending

- Someone instructed a trader to forge fictitious transaction pretending to have purchased expendables, made the university pay a KAKENHI for them, and then instructed the trader to keep the money as deposit for future use.
- Someone instructed a trader to forge a fictitious transaction, obtaining a false invoice which carries item names different from those actually ordered and delivered, and then made the university pay a KAKENHI for them.
- Someone instructed his/her students to submit false work attendance sheets, made the university pay a KAKENHI for them, and then kept the money as a pooled fund of his/her lab.
- Someone visited destination not listed on the oversea travel itinerary, in order to have a meeting on cooperative research unrelated to the purpose of the KAKENHI research project.
- (Note) The expenditure of the KAKENHI for fictitious and other transactions, like the ones mentioned in the case examples above, are all considered "misappropriation or misuse," even if the expenditure was intended for the purpose of conducting the KAKENHI research project.

#### O Fraudulent grant acquisition

· A researcher ineligible for the KAKENHI funding made application and acquired a KAKENHI grant.

#### O Research misconduct

- Someone manipulated or forged experimental data or figures in a research paper published as an achievement of the research supported by a KAKENHI.
- Someone published books of his/her achievement with KAKENHI which contained an article translated from an original English research paper with no prior consent from the author(s) nor proper quotation statement.

#### 6. Dissemination, Etc. of Research Achievements Supported by KAKENHI

KAKENHI research achievements are made available to other researchers and to the general public, through posting of the "Research Outline" and the "Report on the Research Achievements" on the Grants-in-Aid for Scientific Research Database (KAKEN) operated by the National Institute of Informatics.

To promote dissemination of research achievements, the KAKENHI can be used to cover such outreach-related expenses as preparation of website or printing of pamphlets. The KAKENHI grantees are urged to actively pursue public promotion of their research achievements through the aid of KAKENHI so as to make them widely known to the public at large.

In this connection, the KAKENHI grantees are encouraged to participate in the "HIRAMEKI  $\stackrel{\star}{\sim}$  TOKIMEKI SCIENCE" program, in which the latest science developments are presented to elementary, junior high and high school students in an easy-to-understand style.

In addition, please take note of the following issues as well.

#### (1) The acknowledgement for KAKENHI grant in research publications

When publishing research achievements of the KAKENHI project, researchers should be sure to express that the project has been supported by the KAKENHI grant, by stating in the "Acknowledgment" section of the paper the "JSPS KAKENHI Grant Number JP8 digits" in the case of English publication or "JSPS 科研費 JP8 桁の課題番号" in the case of Japanese publication.

⟨Example⟩

[English] This work was supported by JSPS KAKENHI Grant Number JP12K34567.

【Japan】本研究は JSPS 科研費 JP12K34567 の助成を受けたものです。

### (2) The implementation of the fair and conscientious research activities

The research using the KAKENHI should be carried out based on researcher's own self-awareness and responsibility. Therefore the publication on the implementation of the research or research achievements, etc. should not come from the government request and the views and responsibilities on the research achievements should be attributed to the researchers themselves.

On the occasion such as researchers release the research achievements using the KAKENHI broadly to the public, the examples of the indication noting that the research achievements are based on the personal views are given below.

(Example)

[English] Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the author's(s') organization, JSPS nor MEXT.

【Japan】本研究の成果は著者自らの見解等に基づくものであり、所属研究機関、資金配 分機関及び国の見解等を反映するものではありません。

#### (3) Promotion of "Open Access" to the research papers supported by KAKENHI grants

JSPS endorses general policy of promotion of open access of publications of research results funded by public grants including KAKENHI. Note that open access is not mandatory if there are justifiable reasons for deferral such as copyright-related issues, or insufficient repository infrastructure at the research institution.

OThe open access implementation policy of JSPS is given on the following webpage: URL: https://www.jsps.go.jp/data/Open\_access.pdf

[Reference 1: What is "Open Access"]

"Open Access" refers to the idea that research papers published in peer-reviewed journals, etc. should be made freely accessible by anyone on line.

[Reference 2: Different Routes to Open Access]

There are three main ways of open access implementation ((i) to (iii) below).

(i) A way in which the article published in the conventional subscription fee type academic journal after a certain period (Embargo)(\*1) (for example 6 months later) is made open access by

opening the final manuscript to an Institutional Repository(\*2) established by the research institution to which the author belongs, or by opening the final manuscript to the website, etc. established by the researchers (self-archiving)(\*3).

- (ii) A way to make the article open access by posting the article on the web established by the research community or public institution.
- (iii) A way to make the article open access immediately by paying the publication fee (APC: Article Processing Charge) by the author of the article.

#### \*1: Embargo

The predetermined period from the time of publication of an article in an academic journal to the time of release so that it can be posted on an online open access archiving system (repository).

#### \*2: Institutional Repository

An online archiving system created by university or research institution for storage and dissemination of the intellectual products. Institutional repositories play important roles in the reform of academic information distribution by enabling the researchers register their own articles, such as the transmission of research and education achievements of the research institution, PR for both the research institution and the researcher, guaranteeing the accountability of research and education activities towards society, and the long-term conservation of intellectual products.

#### \*3: Self-archiving

"Self-archiving" refers to online posting of articles published in academic journals, dissertations, or data by those other than the publisher (the researcher or research institution) generally on their institutional repositories.

#### (iv) Management of Research Data

As to the management and utilization of research data obtained through the implementation of research activities, in order to secure the autonomy of Japan's research and development activities and promote international open science, policies such as the Sixth Science, Technology, and Innovation Basic Plan (Cabinet Decision on March 26, 2021), Basic Policies on the Management and Utilization of Research Data Created by Publicly-Funded Research Activities (April 27, 2021, Decision of Council for Integrated Innovation Strategy) and the Integrated Innovation Strategy 2020 (Cabinet Decision on July 17, 2020) call for initiatives towards strategic storage and management of research data as well as broader utilization of the research results.

Therefore, there is a plan in which, starting from the FY2024 KAKENHI call for proposals, upon formal application for grant delivery, the Principal Investigator of an adopted research project will be asked to submit a Data Management Plan ("DMP") outlining the storage and management, etc. of research results and research data of his/her research project.

$\subset$	)The	Sixth	Science,	Technology,	and Innov	ation Basi	c Plan (0	Cabinet D	ecision on	March 26
	202	1)								

URL: https://www8.cao.go.jp/cstp/kihonkeikaku/6honbun.pdf

O Basic Policies on the Management and Utilization of Research Data Created by Publicly-Funded Research Activities (April 27, 2021, Decision of Council for Science, Technology and Innovation)

URL: https://www8.cao.go.jp/cstp/tyousakai/kokusaiopen/sanko1.pdf

#### 7. Code of Conduct for Scientists to Adhere

To ensure the quality of scientific knowledge and to gain trust of society on scientists and scientific communities, it is essential to exercise fair and conscientious research activities with the adherence to the code of conduct for scientists. Applicants must understand and practice the contents of both the Statement "Code of Conduct for Scientists -Revised Version-" (section I. "Responsibilities of Scientists") by the Science Council of Japan and the booklet "For the Sound Development of Science -The Attitude of a Conscientious Scientist-" (especially section I "What Is a Responsible Research Activity?") issued by JSPS.

And also take note that upon the formal application for grant delivery, it shall be confirmed through the electronic application system whether the Principal Investigator and Co-Investigator(s) will have taken the research ethics education coursework, etc. (See page 50)

## [Extraction from the Statement "Code of Conduct for Scientists -Revised Version-" by the Science Council of Japan dated January 25, 2013]

I. Responsibilities of Scientists

(Basic Responsibilities of Scientists)

1 Scientists shall recognize that they are responsible for assuring the quality of the specialized knowledge and skills that they themselves create, and for using their expert knowledge, skills and experience to contribute to the health and welfare of humankind, the safety and security of society and the sustainability of the global environment.

(Attitude of Scientists)

2 Scientists shall always make judgments and act with honesty and integrity, endeavoring to maintain and improve their own expertise, abilities and skills, and shall make the utmost effort to scientifically and objectively demonstrate the accuracy and validity of the knowledge they create through scientific research.

(Scientists in Society)

3 Scientists shall recognize that scientific autonomy is upheld by public trust and the mandate of the people, understand the relationships between science, technology, society, and the natural environment from a wide-ranging perspective, and act in an appropriate manner.

(Research that Answers to Social Wishes)

4 Scientists shall recognize that they are responsible for answering to the wishes of society to investigate into truths and to achieve various issues. When using research funds that are to be provided for establishing the research environment and for conducting research scientists shall always recognize that such broad social expectations exist.

(Accountability and Disclosure)

5 Scientists shall strive to disclose and actively explain the roles and significance of their own research, evaluate the possible effects of their research on people, society and the environment as well as the changes that their research might engender, neutrally and objectively disclose the results of this evaluation, and build a constructive dialogue with society.

(Dual Use of Scientific Research Outcomes)

6 Scientists shall recognize that there exist possibilities that their research results, contrary to their own intentions, may be used for destructive actions, and shall select appropriate means and methods as allowed by society in conducting research and publicizing the results.

\* URL: <a href="http://www.scj.go.jp/ja/scj/kihan/">http://www.scj.go.jp/ja/scj/kihan/</a>

["For the Sound Development of Science – The Attitude of a Conscientious Scientist –" by JSPS]

(Japanese version (text version)) ("For the Sound Development of Science" Editorial Committee on JSPS)

\* URL: <a href="https://www.jsps.go.jp/j-kousei/data/rinri">https://www.jsps.go.jp/j-kousei/data/rinri</a> e.pdf

## II. Call for Proposals

## 1. Research Categories for which a Call for Proposals is Organized

## Fund for the Promotion of Joint International Research (Fostering Joint International Research (B)): KAKENHI (Multi-year Fund)

#### A) Purpose:

This grant supports researchers aiming at achieving a major development in creative and pioneering research by conducting joint international research necessary for the development of scientific research. By conducting joint international research overseas, domestic researchers can take the central role in international network, which seeks to build out infrastructure of joint international research or further strengthen joint international research. In addition, early-career researcher is required to participate in project members, which expects to foster researchers who can play leading roles within the international scientific area, and to maintain and develop the infrastructure of joint international research in medium- to long-term.

Since this funding system seeks to build out infrastructure of joint international research or further strengthen joint international research, the grant supports highly selected research projects by assessing not only the significance as scientific research of research initiative, but also assessing the effectiveness of the research plan conducted in overseas research institution, etc.

#### B) Funding target:

• A research plan must include the joint international research project conducted by domestic researchers with the researcher(s) who belongs to an overseas research institution (overseas joint researcher).

Domestic researchers are required to visit the "overseas research institution, etc." which is the core of excellence of the overseas researcher(s) to implement research activities, and the research activities must be the core of the research plan. (\*1)

- A research plan must presuppose the above in which Principal Investigator should mainly visit the "overseas research institution, etc." to implement research activities.
- At least 3 (up to around 5) domestic researchers should be involved in the project (as Principal Investigator or Co-Investigator).

Moreover, at least one early-career researcher (\*2) should be involved in each project (as Principal Investigator or Co-Investigator). However, in case an early-career researcher applies as Principal Investigator, his/her project is eligible even when the project is conducted just by himself/herself or with one another early-career researcher.

\*1 About "visiting the "overseas research institution, etc." to implement research activities"

The meaning is that going along him/herself is mandatory and essential element for the research plan. The examples are shown below.

a) A joint research which is expected to develop by the cooperation/collaboration with

overseas researcher (or a group of researchers) such as utilizing the research facility of

overseas research institution.

b) Field survey, observation, or resource acquisition which is jointly conducted with overseas

researcher (or a group of researchers) in the specific foreign region.

c) Other equivalent research

For above reason, this grant dose not target such as mere research meeting or convention.

Although it is acceptable to involve the domestic research activities to the research plan

within a necessary range, this funding system emphasize the research activities in overseas

research institution and intensively supports such activities. Keep in mind this point both

when developing an idea of research plan and implementing the research plan.

When formulating the research plan, applicants should give due attention to the feasibility

of the project in view of the situation, etc. of the counterpart country of the joint

international research.

\*2 About the requirements of early-career researcher

This grant targets an applicant who is less than 8 years after the acquisition of his/her Ph.D. as

of April 1, 2021 and an applicant who is deemed less than 8 years after acquisition of his/her

Ph.D. by exempting the period(s) of prenatal/postpartum break or childcare leave.

Formerly, non-Ph.D. researchers of age 39 or under were eligible as early-career researchers

under this research category. However, as the transition period for transitional measures under

the "Early-Career Scientists" category enabling non-Ph.D. researchers of age 39 or under to

apply for KAKENHI grants has ended, non-Ph.D. researchers of age 39 or under will no

longer be eligible as early-career researchers under the Call for Proposals after Fiscal Year

2022.

C) Range of total budget: Up to 20 million yen

(In contrast to Fostering Joint International Research (A), "cost of replacement staff" is not

permitted as the research expenditure.)

D) Research period: 3 to 6 years

E) Review Section and Review Method:

Review Section: Medium-sized Section

Review Method: Two-Stage Document Review

F) Application requirements, restriction on parallel grant application/receipt, etc.:

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- Applicant can propose no more than one project for this research category either as a Principal investigator or a Co-Investigator. For this reason, Principal Investigator should confirm enough the Co-Investigators' will to participate in the research plan, when organizing the project members.
- Early-career researcher should be participated in the project members from the view point of build-out of infrastructure or further strengthening of joint international research. For this reason, early-career researcher should be participated as either Principal Investigator or Co-Investigator.
- For the restriction on parallel grant application/receipt, refer to Attached Table 1 "Table of Restriction on Parallel Grant Application/Receipt" (See pages 29-34). The below restrictions on parallel grant application/receipt are mainly applied.
  - The simultaneous receipt of grants between this research category and Specially Promoted Research or Scientific Research (S) is not permitted. For this reason, you cannot apply at this time, if your research proposal for Specially Promoted Research or Scientific Research (S) have already been adopted.
  - The parallel submission of research proposals to this research category and Scientific Research (A/B/C) is permitted. However, the parallel submission with Scientific Research (A/B) (application section "Overseas Scientific Investigation") (continued) is not permitted.
  - The parallel submission of research proposals to this research category and Early-Career Scientists (new proposal) is permitted. However, if your research proposal for Fostering Joint International Research (B) applied at this time is adopted, the research proposal for Early-Career Scientists (new proposal) is to be abolished. Note that the parallel submission with Early-Career Scientists (continued) is not permitted.
  - The parallel submission of research proposals to this research category and Fostering Joint International Research (A) is not permitted. For this reason, the researcher whose research proposal for Fostering Joint International Research (A) (including Fostering Joint International Research adopted before FY2017) has been adopted cannot apply for this research category as a Principal Investigator but can participate in this research category as a Co-Investigator.

#### < Points to be noted>

It is desirable to internationally publish the research achievements such as publication of papers written by international co-authorship, presentation in international conference, and so on.

#### G) About the Letter of Intent:

Principal Investigator should give concrete contents of his/her research plan, relate the roles to be assigned to them and obtain his/her/their full consent to prepare Letter of Intent. This Letter of Intent of established form, which is confirmed between Principal Investigator and overseas

researchers, is required for the application. Furthermore, this letter will be used as a part of the Research Proposal Document for the review.

#### H) Background and other relevant matter of this newly established system:

"Overseas Scientific Investigation" formerly called has been reformed as this research category. From the viewpoint of strengthening joint international research, the scope is broadened to encompass more general scientific investigations not limited to field surveys etc.

As for the purpose and basic idea of the establishment of this research category, refer to "On the Call for Proposals, etc. of the Fostering Joint International Research (B) (Tentative Name)" (January 26, 2018, Subdivision on Grants-in-Aid for Research in the Subdivision on Science, Council for Science and Technology, Material 2-1). Confirm this material enough before planning and preparing research plan.

URL: https://www.mext.go.jp/b menu/shingi/gijyutu/gijyutu4/041/shiryo/1400822.htm

## 2. Schedule from Application to Grant Delivery

## (1) Procedures that need to be completed prior to the deadline for the submission of the application documents

Principal Investigator should sufficiently cooperate with the research institution, and should adequately respond to its requests.

The Date and Time	Procedures to be Performed by the	Procedures to be Performed by the
The Date and Time	Principal Investigator	Research Institution
	(See "III. Instructions for Prospective	(See "V. Instructions for Administrative
	Applicants")	Staff of Research Institution")
From April 1 (Friday),2022 Start of the Call for Proposals	1)Preparing the Application Investigators should access the Electronic Application System using the ID and the e-Rad Password which has been provided by the research institution and preparing the application.	Procedures to be completed, if the need arises  1) The Research Institution obtains an ID and Password for e-Rad from the person in charge of the operation of e-Rad (This does not apply if the research institution already obtained them.)  *The issue of the ID and the Password takes about 2 weeks.  2) Registration of the Researcher Information in e-Rad and other matters.  3) Research institutions issue an ID and password to the Principal Investigators. (This does not apply if the researcher already obtained an ID and a password.)  [Procedures to be completed, if the need arises]  4) The researchers who belong to the Institutions give a consent to become the Co-Investigator.
	[Procedures to be completed, if the need arises] 2) Participation process of the Co-Investigator-to-be joining as a project member	5) Submission of the "Self-assessment Checklist on the Implementation of the System", based on the "Guidelines on the Management and Audit of Public Research Funds at Research Institutions".
	3)Submission (Sending) of the Application Documents The Principal Investigator should submit (send) the application documents to the research institution he/she belongs to, by the deadline decided the research institution.	Submission of the "Checklist Pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research"  *If both Checklists have been submitted separately after April 2021, there is no need for resubmission.
		Deadline for submission:  May 31(Tuesday) (to be strictly observed)
		6) Submission (Sending) of the Application  Documents
<b>Deadline for the Submission:</b>		
May 31 (Tuesday)	, and the second	
4:30 pm		
(to be strictly observed)		

#### Notes:

1. After the Principal Investigator submits (Sending) the application to the research institution (mentioned in "Procedures to be Performed by the Principal Investigator" 3), the research institution should submit (Sending) to the JSPS the application by the deadline for the submission (mentioned in "Procedures to be Performed by the Research Institution" 6).

- Next, he or she should verify the section "Preparation of the KAKENHI Application Form" (See pages 35-50), etc. as well as verify the procedures designated by the research institution, etc. (deadline for the submission of the application, etc., in the research institution) with the office worker in charge in the research institution.
- 2. When the researcher is applying for KAKENHI, he or she should register the researcher information beforehand in e-Rad. The research institution should perform the registration in e-Rad. Therefore, the researcher who is planning to apply should verify the state of the registration with the office worker in charge in the research institution.
- 3. The research institution should submit a "Self-assessment Checklist on the Implementation of the System", based on the "Guidelines on the Management and Audit of Public Research Funds at Research Institutions (Implementation Standards)" and a "Checklist Pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research" (mentioned in "Procedures to be Performed by the Research Institution" 5). If it has not been submitted, no official grant decision will be made for the researchers belonging to the research institution in question.
  - The research institution that did not submit these two checklists in FY2021 should submit them in FY2022 format after April 1, 2022onwards.
- 4. If the project members are organized with some Co-Investigators, the Principal Investigator should conduct the consent process to register the Co-Investigators through the electronic application system (mentioned in "Procedures to be Performed by the Principal Investigator" 2). And the Co-Investigators-to-be need to obtain a necessary consent to become a Co-Investigator from their research institutions, and so on (mentioned in "Procedures to be Performed by the Research Institution" 4). The Principal Investigator cannot submit (send) the Research Proposal Document to his/her research institutions until the research institutions to which the Co-Investigators-to-be belong give the consent to become a Co-Investigator in the research project, and so on. For this purpose, the Principal Investigator is asked to organize the project members immediately (See pages 45-46).

#### (2) Schedule after the Submission of the Application Documents (plan)

The schedule below is as of April 1, 2022

. There may be changes in the plan including the timing of the provisional grant decision due to COVID-19. When the changes occur it will be announced on the JSPS website and through the research institutions.

#### Fostering Joint International Research (B)

June to September 2022: Review

Early October 2022: Provisional grant decision\* • Notification of review results

Middle October 2022: Disclosure of review results

Late October 2022 : Formal application for grant delivery

Early December 2022: Official grant decision

<sup>\*</sup>The notification of review results of Fostering Joint International Research (B) will be given on the same day as the provisional grant decision

## 3 Review Panels and Other Matters

## (1) Concerning KAKENHI Review

#### **Omitted**

#### (2) Review Methods, and Other Matters

The review for Fostering Joint International Research (B) is carried out by the Scientific Research Grant Committee of the Japan Society for the Promotion of Science (JSPS), and it is based on the Research Proposal Document, etc.

The details on "assessment rules" (Rules concerning the review and assessment for the Grants-in-Aid for Scientific Research, called "review and assessment rules" below) can be checked on the JSPS website:

(URL: https://www.jsps.go.jp/j-grantsinaid/01 seido/03 shinsa/index.html).

(The "assessment rules" for FY2022 KAKENHI (Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))) will be posted on the JSPS website in the late April.)

Furthermore, the review is performed by each Medium-sized Section. Reviewers of 6 to 8 will conduct document reviews in two-stage. The panel reviews will not be conducted. (This is called a "Two-Stage Document Review")

\* In the review process, the reviewers can utilize, as necessary, the "researchmap" and the database of Grants-in-Aid for Scientific Research (KAKEN). (See page 51)

#### (3) Notification of the Review Results

- 1)JSPS will issue a notification to the PI and research institution via the electronic application system on whether the research project has been adopted or not, based on the results of the review. (Planned in early October)
- 2) To the PI whose proposal has not been adopted and who wish to request for disclosure the result of the review at the first stage of the review, JSPS is ready to disclose the approximate ranking per the Basic Section, the score (average score), and the "standard-format opinion" via the electronic application system. (Planned in the middle of October)

## **III. Instructions for Prospective Applicants**

## 1. Procedures to be Completed Prior to Application

The following three items must be completed prior to the submission of the research proposal:

- (1) Ascertainment of the Eligibility for KAKENHI Application
- (2) Confirmation of the Researcher Information Registered in the e-Rad System
- (3) Obtainment of an ID and a Password for the Electronic Application System

### (1) Ascertainment of the Eligibility for KAKENHI Application

An applicant submitting a research proposal to Grant-in-Aid for Scientific Research (KAKINHI) as Principal Investigator (PI) must meet the requirements ① and ② stated below.

A researcher carrying KAKENHI eligibility through more than one research institution can submit application(s) through either of the research institutions.

Note that researcher can apply or receive of no more than one project for the research category either as a Principal investigator or a Co-Investigator.

At the time of the proposal submission, a researcher needs to have been approved by his/her research institution (\*) as an eligible researcher who meets the Requirements 1),
 2) and 3) stated below, and have his/her Researcher Information properly registered in the e-Rad system as eligible for KAKENHI application.

#### Requirements

- 1) The applicant must be an individual belonging to a research institution with job assignment including research activity within the said institution. (Whether the job is paid/unpaid, or full-time/part-time is irrelevant. It is not a prerequisite of eligibility that the research activity constitutes the main part of his/her job.)
- 2) The applicant must be actually engaged in research activity in his/her research institution. (Those who are only engaged in research assisting jobs are ineligible.)
- 3) The applicant must not be a graduate student or any other categories of student. (An individual who has a position in a research institution with a research activity as his/her main job (e.g., a university teaching staff, researcher belonging to a company, etc.), and holds a student status at the same time is eligible.)
- (\*): Here, the research institution must be such that designated according to the Article 2 of the "Rules for the Handling of Grants-in-Aid for Scientific Research" (issued by the MEXT).

(Reference) Requirements that the research institution must meet:

#### Requirements

- The research institution must authorize the research project for which KAKENHI is granted, as its proper activity.
- The research institution must take responsibility for management and accounting of the KAKENHI delivered to its researcher staffs.
- 2 The individual must not be categorized as ineligible for grant acquisition in the fiscal year covered by a call for proposals, as a penalty for his/her improper grant spending, fraudulent grant acquisition, or research misconduct.

#### <Important Point 1>

A researcher who is employed by a KAKENHI grant (hereafter called "KAKENHI employee"), is generally bound by their employment contract to concentrate on the research work relevant to the KAKENHI project for which he/she is employed (hereafter called "employment-related work") specified in his/her employment contracts. Therefore, such a KAKENHI employee cannot apply for his/her own KAKENHI project which is to be conducted within the working hours of his/her employment.

However, provided that he/she can clearly demarcate his/her own research hours from the working hours of employment and intends to conduct his/her own research project during the former hours

on his/her own initiative, the KAKENHI employee can submit his/her own KAKENHI proposal, on the condition that the following points are verified by his/her research institution. The KAKENHI employee can apply for KAKENHI as a PI or become a Co-I.

- The KAKENHI employee is granted on his/her employment contract, to conduct research on his/her own initiative, besides the employment-related work.
- The employment-related work and the work devoted to the research on his/her own initiative are clearly demarcated in regard to the working hours and the effort.
- The KAKENHI employee is able to secure enough research hours (besides the working hours for his/her employment-related work) to be allotted to his/her own KAKENHI project.

### [Self-motivated research activities by young researchers employed with KAKENHI funding]

A young researcher (\*) who is employed with KAKENHI funds (KAKENHI employee) and meets the following conditions, may conduct his/she own research during the working hours assigned for the employment-related work, after going through the necessary procedures set by his/her research institution. He/She can apply for KAKENHI as a PI or become a Co-I.

- (1) A young researcher desires on his/her own will to conduct his/she own research.
- (2) The PI and Co-I (the employer of the young researcher) desires that the said research has a positive contribution to the promotion of the funded research project for which he/she is employed, and the research institution approves the said decision.
- (3) The PI and Co-I judges that the efforts to be spared by the young researcher to the said research within the extent that do not cause any hindrance to the execution of the funded research project for which he/she is employed, and the research institution approves the judgement. (The upper limit of the efforts to be spared to the self-motivated research is 20 percent of the efforts to be put into the funded research project for which he/she is employed.)
- \* In this context, "young researcher" is defined as an individual who is age 39 or under, or less than 8 years after Ph.D. acquisition as of April 1 of each fiscal year, and whose job assignment includes research activities. When applying for Grants-in-Aid for Scientific Research (KAKINHI) he/she must meet the eligibility requirements for KAKENHI application.

Provided that the KAKENHI employer approves such self-motivated research activities in accordance with its funding resources (project) rules, if a researcher had originally met the eligibility requirements for KAKENHI's self-motivated research activities at the time of his/her application or participation, he/she may apply for KAKENHI and continue to engage in the adopted research project even if, during the project period, he/she is no longer age 39 or under or less than 8 years after Ph.D. acquisition. If there are changes to the funding resources (project) of the KAKENHI employer, the researcher must abide by the new funding resources (project) rules and reobtain the approval to conduct self-motivated research activities as a young researcher at the time the of the changing of funding resources.

(Reference) Views on the self-motivated research activities by the KAKENHI employee

Attachment 1 to the "Changes in the FY2020 Call for Proposals for Grants-in-Aid for Scientific Research (KAKENHI) and Other Matters" (March 19, 2020) (Excerpt)

https://www.jsps.go.jp/j-grantsinaid/06 jsps info/g 200316/index.html

Grants-in-Aid for Scientific Research (hereinafter referred to as "KAKENHI") is a funding scheme that is intended to promote development of scientific research (based on original ideas of researchers), encompassing basic to applied researches in all fields ranging from humanities and social sciences to natural sciences. Scientific research is a source of innovation *i.e.*, value creation based on new knowledge and has a vital role in nurturing human resources for leading a knowledge-based society broadly. It is particularly important to foster young scientists who are responsible for the next generation in order that the scientific research may sustainably exercise its role in the society.

It enables young researchers employed with a KAKENHI grant to conduct self-motivated research activities (including research activities with other research funds and activities helping research/management capacity building; hereinafter the same). Allowing them to conduct research activities in an independent and free research environment contributes not only to fostering young researchers, but also to the further development of the KAKENHI projects of their research institutions through research based on their freewheeling thinking and to the development of scientific research the entire country. Therefore, the concept of self-motivated research activities by young researchers is introduced in the KAKENHI scheme in this call for proposals.

For details refer to the following.

"Implementation Guidelines for Self-motivated Research Activities by Young Researchers

Employed with Competitive Research Funds" (December 18, 2020, Agreement of the Liaison

Meeting of Related Offices and Ministries on Competitive Research Funds)

https://www.mext.go.jp/amenu/shinkou/torikumi/1385716 00001.htm

#### <Important Point 2>

JSPS Research Fellows (DC) and JSPS International Research Fellows are not eligible for KAKENHI application. In general, graduate students are not eligible either (See the notes below for exceptions.). Therefore, an individual with the status of student in a research institution is not eligible even if he/she also holds a position to conduct research in that or other research institution.

(Note 1) The term "student" as defined here does not include such an individual who has a position to conduct research in his/her research institution, as the main job (e.g., university teaching staff, researcher belonging to company, etc.), and holds a student status at the same time.

(Note 2) If JSPS Research Fellows (SPD, PD, RPD, or CPD) meet the above application

requirements at their research institutions which they register as their host research institutions, they can also apply as Co-I only from the host research institutions.

#### <Important Point 3>

The PIs and the Co-Is constitute the "members of funded projects," as stipulated in Act on Regulation of Execution of Budget Pertaining to Subsidies, etc.. In an event that they have committed improper grant spending, fraudulent grant acquisition, research misconduct, etc. the eligibility for KAKENHI application will be suspended for a period of time specified by the rule. In the following cases, an individual registered in the e-Rad system as "eligible for KAKENHI application" may be subject to different treatment.

- •In case the research institution to which the individual belongs has made a judgement that it is not appropriate to let the individual conduct the said research activity as a part of his/her work within the institution, the institution may withhold the submission of his/her KAKENHI proposal, or may withhold the formal application for grant delivery of a provisionally adopted KAKENHI grant resulting in declination of the grant in question.
- In case a KAKENHI recipient has failed to submit the "Report on the Research Achievements" that is due after the completion of the research period of his/her KAKENHI without any good reason, no new KAKENHI grant(s) will be delivered to him/her, even if the grant(s) have been provisionally adopted. Moreover, if a KAKENHI recipient has failed to submit the "Report on the Research Achievements" by the due date, then the delivery of KAKENHI grant(s) for that fiscal year will be suspended.

#### (2) Confirmation of the Researcher Information Registered in the e-Rad System

A researcher who intends to submit a research document proposal as the PI to any of the KAKENHI categories for which "Call for Proposals" is announced, must carry the eligibility for KAKENHI application at the time of submission of the "Research Proposal Document" from his/her research institution to JSPS, and must be registered in the e-Rad system as such.

Therefore, <u>it is important for the researcher to ascertain proper registration of his/her Researcher</u>

<u>Information in the e-Rad system.</u>

The registration in the e-Rad system is handled by the research institution to which the researcher belongs. The researcher should check with the administrative section of his/her institution about the registration procedures including the registration deadline within the institution, the method of confirmation of the current contents of registration, etc. If any of the entry items (such as "affiliation", "position etc.) of the researcher who has been already registered in the e-Rad system need updating, they should be duly completed.

#### (3) Obtainment of an ID and a Password for the Electronic Application System

When the research institution completes the e-Rad registration of a researcher, an ID and a password will be issued for the researcher. The researcher can access the KAKENHI Electronic

Application System using the ID and password and prepare the Research Proposal Document.

The ID and password issued to a researcher remain valid after he/she moves to another research institution. Every researcher should exercise due care in handling his/her ID and password so as to prevent their leakage and abuse.

#### 2. Restrictions on Parallel Grant Application/Receipt

A researcher who intends to submit research proposal(s) to KAKENHI should be well acquainted with the "Restrictions on Parallel Grants Application/Receipt" before starting preparation of research proposal document(s) to check if applications to the intended categories are permitted.

#### (1) The Basic Policy for Restriction on Parallel Grant Application/Receipt

KAKENHI consists of different "Research Categories" and "Application Sections" set on the basis of budget scale, content, and other factors of the intended research, so as to meet various needs and research styles of the applicants.

On the other hand, in consideration of the necessity to support many excellent researchers with limited funding resources, and of the possible detrimental influence of overcrowding applications on the proper management of the review process, the "Rules for Restrictions on Parallel Submission of Research Proposals" have been set up, according to the following basic principles. Restrictions on parallel grant application/receipt do apply to the current round of call for proposals.

- ① Give considerations so as to ensure that as many excellent researchers as possible can be supported with limited funding resources.
- ② Give considerations so as to ensure that the number of applications does not become excessive in comparison with the review scheme of each research category.
- 3 The restrictions to be enforced are primarily directed to the applicant as Principal Investigator (PI) who bears all responsibility for the implementation of the research project(s). In some cases such as the research categories with large budget scale, however, the restrictions may be also extended to individuals as the Co-Investigator (Co-I).
- 4 The restriction on parallel submission of research proposals and the restriction on simultaneous receipt of grants are separately set on each of the KAKENHI categories, in accordance of the basic concepts outlined above and by taking into consideration the purpose, characteristics and other factors of each KAKENHI category

# Accordingly, the applicant should be well acquainted with the description the rules given below, and the "Table of Restrictions on Parallel Grants Application/Receipt" (See pages 32-34).

In case a particular research project falls under the concept of "unreasonable duplication" as put forward in the "Guidelines on the Proper Implementation of Competitive Funding" below, it may be judged as such in the review process. Therefore, the applicant should take due precautions in preparing his/her research proposal document.

#### (2) Restrictions on Parallel Grant Application/Receipt

Note the below points for the application in addition to referring the "Table of Restriction on Parallel Grant Application/Receipt" (See Attached Table 1).

- You can propose no more than one project for the Fostering Joint International Research
   (B) either as a Principal investigator or a Co-Investigator (See page 19). A researcher
   carrying KAKENHI eligibility through more than one research institution can submit
   application through either of the research institutions.
- 2) If you have received the provisional grant decision of Specially Promoted Research (provisional grant decision is planned on early April) or Scientific Research (S) (provisional grant decision is planned on early May) and you have conducted the formal application for grant delivery, research project for Fostering Joint International Research (B) will not be reviewed after you applied.
- 3) Even after a submitted proposal has been duly filed in the electronic application system, it may be eliminated from the subsequent review process by the rule of restriction on parallel grant application/receipt. The applicant should check against such possibility before submitting the research proposal document.
  Be careful enough that if the researcher participates in multiple project members and
  - submits the research projects to JSPS, all the research projects applied will not be reviewed.
- 4) Even for the cases in which parallel grant application/receipt is not prohibited by the rules, the applicant should give a careful consideration so as not to fall in such situation that he/she cannot carry his/her responsibility as PI or Co-I, by committing him/herself to too many research projects. The applicant should be well acquainted with the content of "Elimination of Unreasonable Duplication and/or Excessive Concentration in the Grant Allocation" mentioned on following guideline.
- 5) There are no restrictions on parallel research grant application/receipt between KAKENHI and other competitive research funding schemes. Still, applicants should read the description in the column "Eliminate Unreasonable Duplication and/or Excessive Concentration in the Grant Allocation" on following guideline.

## (3) Special Provisions for the Restriction on Parallel Grant Application/Receipt (Handling of the Restrictions on Parallel Grant Application/Receipt in relation to Extension of the Research Period)

- 1)When a PI of an on-going project of KAKENHI (Multi-year Fund) or KAKENHI (Partial Multi-year Fund) opts to use the extension of the research period in the final FY (except in the case of maternity/childcare leave, research stay abroad, etc., the restriction on parallel grant application/receipt does not apply between the on-going project and a new research proposal of Fund for the Promotion of Joint International Research (Fostering Joint International Research (B)).
- 2)However, the restriction on parallel grant application/receipt does apply between this new research proposal to be submitted under the Promotion of Joint International Research (Fostering Joint International Research (B)) and other research proposals/projects (including on-going research projects) which the same PI has submitted under other KAKENHI grants that were solicited prior to the call for proposals of this research category (hereinafter referred to as "KAKENHI already called for").

#### Attached Table 1 Table of Restriction on Parallel Grant Application/Receipt

1) Restriction on Parallel Grant Application/Receipt for the KAKENHI already called for and Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))

OPrincipal Investigator of the KAKENHI already called for (New Proposal/Continued)

→ Fostering Joint International Research (B) Fostering Joint International Research Column B (B) New Proposal Column A PΙ Co-I New Proposal Specially Promoted Research Continued PΙ  $\blacktriangle$ ▲ Scientific Research (S) Continued PΙ PΙ Scientific Research PΙ Continued (A) Continued PΙ  $\blacktriangle$ Proposal General Continued Scientific Research **(B)** Overseas Scientific Investigation (\*) Continued PΙ Generative Research Fields Continued PΙ PΙ General Scientific Research Continued Continued Young Scientists(A) Continued PΙ PΙ ▲ Young Scientists(B) Continued PΙ **Early-Career Scientists** PΙ  $\blacktriangle$ Continued PΙ Proposal Pioneering Continued PΙ Challenging Research PΙ Proposal Continued Challenging Continued PΙ **Exploratory Research** Proposal Research Activity Start-up Continued PΙ

OCo-Investigator of the KAKENHI already called for (New Proposal/Continued)

	→ Fostering Joint International Research (B)				
		Colum	ın B	Internation	ng Joint al Research B)
				New Proposal	
Column A	Column A			PI	Co-I
Specially Promoted		New Proposal	Co-I		
Research		Continued	Co-I		
Scientific Resea	Scientific Besserch (S)		Со-І		
	- (-)	Continued	Co-I		
	General	New Proposal	Co-I		
Scientific Research (A)		Continued	Co-I		
, ,	Overseas Scientific Investigation (*)	Continued	Co-I		
	General	New Proposal	Co-I		
Scientific Research		Continued	Co-I		
(B)	Overseas Scientific Investigation (*)	Continued	Co-I		
	Generative Research Fields	Continued	Co-I		
	General	New Proposal	Co-I		
Scientific Research (C)		Continued	Co-I		
	Generative Research Fields	Continued	Co-I		
	Pioneering	New Proposal	Co-I		
Challenging Research		Continued	Co-I		
	Exploratory	New Proposal	Со-І		
		Continued	Co-I		
Challenging Exploratory Research		Continued	Co-I		

Blank cell: The researcher can apply for both research projects.

Continued

JSPS Fellows

(JSPS Research Fellow)

 $\blacktriangle$ 

<sup>×:</sup> The researcher can only apply for one research project (in case he or she applied for a research project mentioned in column A, he or she cannot apply for a research project mentioned in column B).

<sup>▲:</sup> The researcher cannot apply for a research project mentioned in column B (He or she only implements the research of a continued research project mentioned in column A).

<sup>■:</sup> The researcher can apply for both research projects. However, in case both are adopted, he or she only implements the research of the research project in A.

<sup>🗆:</sup> The researcher can apply for both research projects. However, in case both are adopted, he or she only implements the research of the research project in B.

<sup>\*</sup>A new research project mentioned in column A is related to the research project applied for the Grants-in-Aid for Scientific Research (FY2022).

2) Restriction on Parallel Grant Application/Receipt for Fund for the Promotion of Joint International Research /Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))

OFund for the Promotion of Joint International Research → Fostering Joint International Research (B)

	Column B		Fostering Joint International Research (B) New Proposal		
Column A			PI	Co-I	
International Leading	New	PI			
Research	Proposal	Co-I			
Fostering Joint International	New Proposal (*)	PI	×		
Research (A)	Continued	PI	×		
Fostering Joint International Research	Continued	PI	×		
	New Proposal	PI	×	×	
Fostering Joint International		Co-I	×	×	
Research (B)	Continued -	PI	<b>A</b>	<b>A</b>	
		Co-I	<b>A</b>	<b>A</b>	
Home-Returning Researcher	Continued	PI		_	
Development Research	Continued	Co-I			

<sup>(\*)</sup> In case you have applied for Fostering Joint International Research (B) as a Principal Investigator, you cannot apply for Fostering Joint International Research (A) to be called for proposals on July 2022.

Blank cell: The researcher can apply for both research projects.

- ×: The researcher can only apply for one research project (in case he or she applied for a research project mentioned in column A, he or she cannot apply for a research project mentioned in column B).
- ▲: The researcher cannot apply for a research project mentioned in column B (He or she only implements the research of a continued research project mentioned in column A).
- : The researcher can apply for both research projects. However, in case both are adopted, he or she only implements the research of the research project in B.

3) Restriction on Parallel Grant Application/Receipt Scientific Research on Innovative Areas / Transformative Research Areas and Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))

OScientific Research on Innovative Areas (New Proposal/Continued) → Fostering Joint International Research (B)

			Column B	Fostering Join Resear	
				New P	roposal
Colur	nn A			PI	Co-I
ive Areas ch area)	Administr ative group (*)	Continued	PI		
Scientific Research on Innovative Areas (Research in a proposed research area)	Planned	Continued	PI, Co-I		
Research on in a prop		New Proposal	PI		
Scientific (Research	Pub offe rese	Continued	PI		

<sup>(\*)</sup> The "International Activities Supporting Group" has the same restrictions on duplications as the "Administrative Group".

○Transformative Research Areas (New Proposal) → Fostering Joint International Research (B)

			Column B		t International rch (B)
				New P	roposal
Colur	mn A			PI	Co-I
	Administrative group	New Proposal	PI		
rmative h Areas .)	Admini	Continued	PI		
Transformative Research Areas (A)	Planned	New Proposal	PI, Co-I		
	Pla	Continued	PI, Co-I		
	Administrative group	New Proposal	PI		
rmative h Areas	Continued	Continued	PI		
Transformative Research Areas (B)	Planned	New Proposal	PI, Co-I		
	Plan	Continued	PI, Co-I		

Blank cell: The researcher can apply for both research projects.

<sup>×:</sup> The researcher can only apply for one research project (in case he or she applied for a research project mentioned in column A, he or she cannot apply for a research project mentioned in column B).

<sup>▲:</sup> The researcher cannot apply for a research project mentioned in column B (He or she only implements the research of a continued research project mentioned in column A).

<sup>:</sup> The researcher can apply for both research projects. However, in case both are adopted, he or she only implements the research of the research project in B.

## 3. Preparation of the KAKENHI Application Form (Research Proposal Document and Letter of Intent)

Grants-in-Aid for Scientific Research is a competitive research funds intended to provide financial support for creative and pioneering research conducted by individual researchers. Therefore, the contents of the Research Proposal Document must be original planned by the applicant.

<u>In preparing Research Proposal Document, plagiarism and/or misappropriation of the research contents of others are strictly impermissible. Applicants must comply with research ethics.</u>

In addition, applicants should note that the entire Research Proposal Document, including the title of the research project will be reviewed, and will be publicized widely in the Grants-in-Aid for Scientific Research (KAKENHI) Database (KAKEN) if the research proposal is adopted. Therefore, make sure to select a title that effectively reflects the content of the research project.

For submission of a research proposal, the PI has to complete the relevant Research Proposal Document and Letter of Intent from overseas researcher. The Research Proposal Document consists of two parts: "Items to be entered in the Website" and "Forms to be uploaded as an attached file".

The PI should complete the Research Proposal Document (PDF file) by entering the "Items to be entered in the Website" and by uploading the "Forms to be uploaded as an attached file" to the Electronic Application System. Then he/she should submit the Research Proposal Document to the administrative section of his/her research institution, by the deadline set by the institution.

In addition to the Research Proposal Document, applicant should submit the Letter of Intent from overseas researcher.

Preparation and submission of the KAKENHI Research Proposal Document and Letter of Intent from overseas researcher should follow the procedures detailed below.

#### (1) Revision of the Research Proposal Document

In the process of the Reform of the KAKENHI Review System, Research Proposal Document has been reviewed since FY 2018 call (announced in September 2017). The revision to the FY2019 call (announced in September 2018) includes the instructions on describing achievements in the column of research achievements.

In the Fund for the Promotion of Joint International Research (Fostering Joint International Research (B)), several changes in the Research Proposal Document such as follows have been made from the FY2019 call for proposals.

In preparing the research proposal document, read carefully the Application Procedures for Grants-in-Aid for Scientific Research-KAKENHI- (Supplement) "Forms/Procedures for Preparing and Entering a Research Proposal Document".

• Based on the purpose of this category, revisions have been made on the structure of Research Proposal Document. Also, the contents of description an applicant should provide in each column about his/her concrete research plan for overseas joint international research project including its

significance and necessity have been specified.

• The "Research Achievements of the Principal Investigator (PI) and Co-Investigator(s) (Co-I(s))" column in the Research Proposal Document is to be changed to the "Applicant's Ability to Conduct the Research and the Research Environment" column in accordance with the rating elements.

Furthermore, the summary on the discussion related to the revision of the "Applicant's Ability to Conduct the Research and the Research Environment" column such as in the Subdivision on Research Grant Screening Section of the Academic Deliberation in the Subdivision on Science, Council for Science and Technology is as follows.

(Reference) The summary on the discussion including in the Subdivision on Research Grant Screening Section of the Academic Deliberation in the Subdivision on Science, Council for Science and Technology

#### (Problem recognition, etc.)

- Ouring the review process, there seems to be a reality which is easily enable to distort what an application and a review per se should be, including the possibility to enumerate unnecessarily the achievements irrelevant to the research project in the "Research Achievements" column.
- There seems to be a possibility that the "Research Achievements" column gives a wrong recognition that without filling in the column spaces with many of research achievements as possible, it might be disadvantage for applicants at the review.
- There is still a room for consideration on the "way to make applicants describe" their research achievements and so on although it is necessary to verify them to assess their ability to conduct the research corresponding to the shared responsibility of the Principal Investigator and the Co-Investigators.
- o If there might be a possibility to provide applicants and others with a recognition that as if a performance over-emphasis principle be prevailing at the review in the KAKENHI, a rectification of it should be attempted as far as possible and a consideration to contrive to do so is required.
- In case making continuous use of the "Research Achievements" column, a consideration
  enabling applicants to properly describe information necessary to assess their ability to
  conduct the research is required. (An impression as if the "filling in the column is just an
  important thing" should be dispelled.)
- Regarding the assessment on the ability to conduct the research by using such as the research achievements, an attempt to foster a correct recognition for both sides of applicants and reviewers is required.

#### (Basic policy, etc. for the revision of the Research Proposal Document)

- O At the review of the KAKENHI, as for research projects proposed by the Principal Investigator, in association with considering a scientific originality and creativity, a clarification of research objectives and so on, it is also intended to assess the researchers' ability to conduct the research strictly and to select appropriate research projects.
- The positioning of the research achievements in the Research Proposal Document is for judging a practical feasibility of the research described in the Research Proposal Document before rolling out the research.
- Based on the understandings above, the research achievements should be clearly defined that they are regarded as verifying the ability to conduct the research for the research plan.

#### (2) Preparation of KAKENHI Research Proposal Document and Letter of Intent

For the preparation of the KAKENHI Research Proposal Document and Letter of Intent, <u>the</u> <u>applicant must first access the Electronic Application System using his/her e-Rad ID and Password.</u>

#### On the Research Proposal Document

The KAKENHI Research Proposal Document consists of the following two parts:

#### Items to be entered in the Website:

Items to be directly entered by the PI (applicant) on the website of the KAKENHI Electronic Application System

#### Forms to be uploaded:

A part containing such entries as "Summary, Significance and Necessity of the Joint International Research, etc.", "Research Objectives, Research Method of the Joint International Research, etc." and other items to be prepared by downloading the form from the "Grants-in-Aid for Scientific Research-KAKENHI-" page within the JSPS website (URL:https://www.jsps.go.jp/j-grantsinaid/35\_kokusai/04\_kyoudoub/download.html), and by uploading the filled form to the KAKENHI Electronic Application System so as to compile a PDF file of the research proposal document. (Paper-based applications will not be accepted.)

	Research Proposal Document				
Research category Application Section	Items to be entered in the Website (First part)	Forms to be uploaded as an attached file (File ID)	Items to be entered in the Website (Second part)		
Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))	To be entered in the electronic application system (Title of research project, Fundamental data on the research project such as total budget, Data on the project members, etc.)	S-63-1	To be entered in the electronic application system (Research expenses, Necessities, status of application and acquisition of research grants, etc.)		

<sup>\*</sup> Forms can be downloaded from the "Grants-in-Aid for Scientific Research - KAKENHI" page within the JSPS website (URL: https://www.jsps.go.jp/j-grantsinaid/35\_kokusai/04\_kyoudoub/download.html) even before the obtaining of the e-Rad ID and password.

#### About the Letter of Intent

The Letter of Intent is to be collected from an overseas joint researcher in time for the application to confirm that applicant jointly conducts the research project with the overseas researcher. You can download the form from JSPS website(URL:<a href="https://www.jsps.go.jp/j-grantsinaid/index.html">https://www.jsps.go.jp/j-grantsinaid/index.html</a>). Applicant should fill in the necessary information such as Outline of the Research Project, request the overseas joint researcher (the principal researchers of the group in case a group of researchers) to confirm the contents and give a signature. When you receive it over an electronic file, please save the information on the related correspondences including email messages. (Note

that applicants are requested to upload the letter of intent only.) When you receive it on paper, please be sure to convert the form to PDF before uploading it to the electronic application system. Applicants are requested to upload just one of the letters written by the main overseas joint researchers in case s/he receives several letters.

- O Uploaded Letter of Intent will be used in review process as a part of the Research Proposal Document. Please inform a researcher to whom you request to write Letter of Intent the following: Personal information of overseas Co-Investigator given in Letter of Intent and Research Proposal Document will be used for administrative tasks of KAKENHI grants; The above includes providing personal information to external contractor(s) in charge of the
  - electronic processing and management of KAKENHI data.

    You can also refer to next page (3) Electronic Submission of the Research Proposal
  - You can also refer to next page (3) Electronic Submission of the Research Proposal Document, 4).
- Until the both Research Proposal Document and Letter of Intent have been uploaded, applicant cannot submit (send) them to his/her research institution.

#### (3) Electronic Submission of the Research Proposal Document

- 1) An applicant should prepare his/her Research Proposal Document (PDF file) by entering the "Items to be entered in the Website" and by uploading the separately prepared "Forms to be uploaded" to the electronic application system, following the instructions in the "FY2022 Procedures for Preparing and Entering a Research Proposal Document for "Fund for the Promotion of Joint International Research (Fostering Joint International Research (B))" and "FY2022 Procedures for Preparing and Entering a Research Proposal Document (Items to be entered in the Website) (Fund for the Promotion of Joint International Research (Fostering Joint International Research (B)))".
  - In addition, applicant should upload the Letter of Intent converted to PDF file to the electronic application system.
- 2) The compiled books of the submitted KAKENHI Research Proposal Documents to be sent to the reviewers are <u>in black-and-white (gray scale) print</u>. Therefore, in preparing the Research Proposal Document, the applicant should pay attention to the clarity of the figures when printed in gray scale.
- 3) The Research Proposal Documents and Letters of Intent are collected and submitted to JSPS by the research institution to which the PIs (applicant) belong. Therefore, the applying PI should submit his/her Research Proposal Document to the administrative section of his/her research institution by the deadline set by the institution. (It is not allowed to submit the Research Proposal Document directly to JSPS.)

Before submission, the applying PI should carefully check the contents of the Research Proposal Document (PDF file) and Letter of Intent he/she prepared, and subsequently proceed to the "Check Completed and Submission" stage of the submission process. (This amounts to submitting the Research Proposal Document (PDF file) and Letter of Intent to the administrative section of his/her research institution.) After the "Approval" process by his/her institution, no further corrections or modifications to the submitted Research Proposal Document (PDF file) and Letter of Intent is possible.

4) The personal information contained in the Research Proposal Document and any personal information registered in Electronic Application System will be used for purposes such as the elimination of unreasonable duplication and/or excessive concentration in the allocation of competitive research funds, the appropriate funding of KAKENHI grants, and to conduct questionnaires on scientific technology policies including KAKENHI grants (this includes providing the data to external contractor(s) in charge of electronic processing and management of the KAKENHI data). Any such information will also be provided to the e-Rad system. (The information registered in the e-Rad system is utilized for proper assessment of research and development by national funding, development of effective and efficient comprehensive strategy, planning and development of resource allocation policy, etc. Therefore, the information will be supplied to the Cabinet Office through the e-Rad system. The applicant may be requested to cooperate in verification of the information and other related works.)

The information on the adopted KAKENHI projects (the title of research project, the name of PI and his/her affiliated research institution, the grant to be delivered, research period, etc.) is categorized as "information planned to be made public," as laid down in Article 5, paragraph 1, item 1 of the "Act on Access to Information Held by Incorporated Administrative Agencies" (Act No. 140 of 2001). The information will be made public through press release materials, the Grants-in-Aid for Scientific Research Database (KAKEN) of the National Institute of Informatics, and other means.

#### Important Checkpoints of the Research Proposal Document

In preparing a Research Proposal Document, the applicant should pay attention to the following points among others, so as to avoid "outright rejection by incompleteness of the research proposal document".

#### 1. Qualification as a KAKENHI project

The following kinds of research plans fall outside the scope of funding target:

- A) A research plan which merely aims at purchasing ready-made research equipment.
- B) A research plan whose purpose is to build a large-size research facility or equipment which is more appropriate to be funded by other resources.
- C) A research plan whose purpose lies at developing and selling goods and/or services (including

market research associated with such as them).

- D) An entrusted research conducted as regular business.
- E) A research plan with a yearly budget less than 100,000 yen.

#### 2. Eligibility of the Project Members

The PI (See page 44, 1) may organize a research team with appropriate combination of Co-Investigator(s) (Co-I) (See page 45, 2), and Research Collaborators(s) (See page 46, 3), as needed by the nature of the research project.

As is the case for PI, <u>Co-Investigator(s)</u> is also subject to verification of their <u>KAKENHI</u> eligibility by their respective research institute by the time of proposal submission (See Notes below).

On the other hand, to be a Research Collaborators, registration to the e-Rad system is not a requirement.

#### < Requirements >

- 1) The applicant must be an individual belonging to a research institution with a job assignment including research activity within the said institution. (Whether the job is paid/unpaid, or full-time/part-time is irrelevant. It is not a prerequisite of eligibility that the research activity constitutes the main part of his/her job.)
- 2) The applicant must be actually engaged in a research activity in his/her research institution. (Those who are only engaged in research assisting jobs are ineligible.)
- 3) The applicant must not be a graduate student or any other categories of student. (An individual who has a position in a research institution with a research activity as his/her main job (e.g., a university teaching staff, a researcher belonging to a company, etc.), and holds a student status at the same time is ineligible.)
- (\*): Here, the research institution must be such that designated according to the Article 2 of the "Rules for the Handling of Grants-in-Aid for Scientific Research" (issued by the MEXT)

(Reference) Requirements that the research institution must meet:

- < Requirements >
  - The research institution must authorize the research project for which KAKENHI is granted, as its proper activity.
  - The research institution must take responsibility for management and accounting of the KAKENHI delivered to its researcher staffs.
- (Note 1) A JSPS Research Fellow (SPD, PD, RPD or CPD) who meets the above application requirements at his/her host research institution can participate in a KAKENHI research project as Co-I. There are no restrictions on the research categories in which he/she can participate as Co-I unlike in the case of participating as PI.

(Note 2) JSPS Research Fellows (DC), International JSPS Fellows and graduate students (or students of any other category) cannot be a PI or Co-I of a KAKENHI project.

#### <Important point 1>

KAKENHI employee is generally bound by their employment contract to concentrate on the research work relevant to the employment-related work specified in his/her employment contracts. Therefore, such a KAKENHI employee cannot apply for his/her own KAKENHI project which is to be conducted within the working hours of his/her employment.

However, provided that he/she can clearly demarcate his/her own research hours from the working hours of employment and intends to conduct his/her own research project during the working hours on his/her own initiative, the KAKENHI employee can submit his/her own KAKENHI proposal, on the condition that the following points are verified by his/her research institution. In this case, he/she can apply as PI, or participate to other KAKENHI project(s) as Co-I.

- The KAKENHI employee is granted on his/her employment contract, to conduct research on his/her own initiative, besides the employment-related work.
- The employment-related work and the work devoted to the research on his/her own initiative are clearly demarcated in regard to the working hours and the effort.
- The KAKENHI employee is able to secure enough research hours (besides the working hours for his/her employment-related work) to be allotted to his/her own KAKENHI project.

[Self-motivated research activities by an "early-career scientist" employed with KAKENHI]

A young researcher (\*) who is employed with KAKENHI funds (KAKENHI employee) and meets the following conditions, may conduct his/her own research during the working hours assigned for the employment-related work, after going through the necessary procedures set by his/her research institution. He/she can apply for KAKENHI as a PI or become a Co-I.

- (1) The young researcher desires on his/her own will to conduct his/her own research.
- (2) The PI or Co-I (the employer of the young researcher) decides that the said research has a positive contribution to the promotion of the funded research project for which he/she is employed, and the research institution approves the decision.
- (3) The PI or Co-I judges that the efforts to be spared by the young researcher to the said research is within the extent that do not cause any hindrance to the execution of the funded research project for which he/she is employed, and the research institution approves the judgement. (The upper limit of the efforts to be spared to the self-motivated research is 20 percent of the efforts to be put into the funded research project for which he/she is employed.)
- \* In this context, "young researcher" is defined as an individual who is age 39 or under, or less than 8 years after Ph.D. acquisition as of April 1 of each fiscal year, and whose job assignment

includes research activities. When applying for Grants-in-Aid for Scientific Research (KAKENHI) he/she must meet the eligibility requirements for KAKENHI application.

Provided that the KAKENHI employer approves such self-motivated research activities in accordance with its funding resources (project) rules, if a researcher had originally met the eligibility requirements for KAKENHI's self-motivated research activities at the time of his/her application or participation, he/she may apply for KAKENHI and continue to engage in the adopted research project even if, during the project period, he/she is no longer age 39 or under or less than 8 years after Ph.D. acquisition. If there are changes to the funding resources (project) of the KAKENHI employer, the researcher must abide by the new funding resources (project) rules and reobtain the approval to conduct self-motivated research activities as a young researcher at the time the of the changing of funding resources.

(Reference) Views on the self-motivated research activities by the KAKENHI employee

Attachment to the "Proposals of the Grants-in-Aid for Scientific Research (KAKENHI) in Fiscal Year 2020" (March 19, 2020) (Excerpt)

https://www.jsps.go.jp/j-grantsinaid/06\_jsps\_info/g\_200316/index.html

Grants-in-Aid for Scientific Research (hereinafter referred to as "KAKENHI") is a funding scheme that is intended to promote development of scientific research (based on original ideas of researchers), encompassing basic to applied researches in all fields ranging from humanities and social sciences to natural sciences. Scientific research is a source of innovation i.e., value creation based on new knowledge and has a vital role in nurturing human resources for leading a knowledge-based society broadly. It is particularly important to foster young scientists who are responsible for the next generation in order that the scientific research may sustainably exercise its role in the society.

It enables young researchers employed with a KAKENHI grant to conduct self-motivated research activities (including research activities with other research funds and activities helping research/management capacity building; hereinafter the same). Allowing them to conduct research activities in an independent and free research environment contributes not only to fostering young researchers, but also to the further development of the KAKENHI projects of their research institutions through research based on their freewheeling thinking and to the development of scientific research the entire country. Therefore, the concept of self-motivated research activities by young researchers is introduced in the KAKENHI scheme in this call for proposals.

For details, refer to the following:

"Implementation Guidelines for Self-motivated Research Activities by Young Researchers Employed with Competitive Research Funds" (December 18, 2020, Agreement of the Liaison Meeting of Related Offices and Ministries on Competitive Research Funds)

https://www.mext.go.jp/amenu/shinkou/torikumi/1385716 00001.htm

#### <Important point 2>

The PIs and the Co-Is constitute the "members of funded projects", as stipulated in the Law on the Improvement of the Administration of the Budget for Grants-in-Aid (1955, Law no. 179). In an event that they have committed improper grant spending, fraudulent grant acquisition, research misconduct, etc. the eligibility for KAKENHI application will be suspended for a period of time specified by the rule.

In the following cases, an individual registered in the e-Rad system as "eligible for KAKENHI application" may be subject to different treatment.

- In case the research institution to which the individual belongs has made a judgement that it is not appropriate to let the individual conduct the said research activity as a part of his/her work within the institution, the institution may withhold the submission of his/her KAKENHI proposal, or may withhold the formal application for grant delivery of a provisionally adopted KAKENHI grant resulting in declination of the grant in question.
- In case a KAKENHI recipient has failed to submit the "Report on the Research Achievements" that is due after the completion of the research period of his/her KAKENHI without any good reason, no new KAKENHI grant(s) will be delivered to him/her, even if the grant(s) have been provisionally adopted. Moreover, if a KAKENHI recipient has failed to submit the "Report on the Research Achievements" by the due date, then the delivery of KAKENHI grant(s) for that FY will be suspended.

#### 1) Principal Investigator (PI) (Applicant)

(A)Principal Investigator is the main recipient of the grant who bears full responsibility for the implementation of the research project (including summarization of the research achievements). An individual who is anticipated to become unable to carry through the PI's responsibility over the entire research period due to, for example, loss of the KAKENHI eligibility caused by PI's own accord, should refrain from becoming a PI. (See Note below)

#### (Note)

The Principal Investigator is a researcher who plays the central role in the implementation of the research plan and thus bears a heavy responsibility. An individual who is anticipated to lose his/her eligibility for KAKENHI application during the research period due to his/her own accord so that is anticipated to be unable to carry through the responsibility, should refrain from becoming a Principal Investigator. Substitutions of the PI of an on-going KAKENHI project are not permitted.

## (B) When organizing project members, Principal Investigator must obtain a consent to become a Co-Investigator from the researcher via electric application system in advance so that the relationship between the Principal Investigator and the Co-Investigator is clear.

(C)The PI must be registered in the e-Rad system as "Eligible for KAKENHI Application". It is also

required that he/she is *not* designated as "ineligible for grant receipt" in the fiscal year covered by a call for proposals(suspension of eligibility), as a penalty for such misconducts as improper grant spending, fraudulent grant acquisition or research misconduct associated with KAKENHI or any other competitive research funds.

#### 2) Co-Investigator (Co-I)

(A) The Co-Investigator is a recipient of the grant who, in cooperation with the PI, bears responsibility for the implementation of the research project in accordance with the clear share of his/her roles. The Co-I must be a member of the project who receives a share of the grant based on the contents of the share as a recipient of the grant. (This rule applies even when the Co-I belongs to the same institution as the PI.)

An individual who is anticipated to become unable to carry through the Co-I's responsibility over the entire research period due to, for example, the loss of the KAKENHI eligibility caused by Co-I's own accord, should refrain from becoming a Co-I.

(B) The Co-I must be registered in the e-Rad system as being "Eligible for KAKENHI Application". It is also required that he/she is *not* designated as being "ineligible for grant receipt" in the fiscal year covered by a call for proposals (a suspension of eligibility), as a penalty for such misconducts as an improper grant spending, a fraudulent grant acquisition or a research misconduct associated with the KAKENHI or any other competitive research funds.

< About the Process of Participation of Co-Investigator in Project Members >

A consent process to become a Co-Investigator is conducted via the electronic application system if the applicant adds a Co-Investigator to project members. Following processes for both Principal Investigator and Co-Investigators are necessary in the application process.

[Actions to be taken by the Principal Investigator]

• By submitting (sending) Research Proposal Document to his/her research institution, Principal Investigator must enter the information on the researcher whom Principal Investigator wants to add to the project members in the "Project Members List" column on the "Application Information Input" screen, request the researcher to become a Co-Investigator, and obtain a consent from the Co-Investigator-to-be.

[Actions to be taken by the researcher who is requested to become a Co-Investigator]

• If the researcher is requested to become a Co-Investigator by the Principal Investigator via the electronic application system, the researcher must select "Consent" or "Dissent" after confirming the contents to be consented.

Procedures to be Performed by the Principal Investigator	Procedures to be Performed by the Co-Investigator-to-be	Procedures to be Performed by the Research Institutions to which Co-Investigator-to-be belongs
① Request to become a Co-Investigator —	② Give a consent to become a —	→ ③ Give a consent to become a
	Co-Investigator	Co-Investigator as a standpoint of
		the research institutions
The Principal Investigator requests to	The Co-Investigator-to-be is requested	The information consented by the
the researcher who is to be requested to	to participate in the project members as	Co-Investigator-to-be is shown via the
become a Co-Investigator to participate	a Co-Investigator from the Principal	electronic application system and then
in the project members as a	Investigator via the electronic	the research institutions also conducts
Co-Investigator via the electronic	application system and then the	the process such as giving consents to
application system	Co-Investigator-to-be selects a consent	him/her.
	(or a dissent).	

- The organization of the project members should be completed through all necessary procedures mentioned above to be carried out with the approximate target of **two weeks prior to the deadline for the submission of the application documents**. (All application procedures are workable on the system after two weeks prior to the deadline for the submission of the application documents. To submit (send) application documents to the research institution to which the Principal Investigator belongs, it is necessary to obtain consents from all the Co-Investigators-to-be.
- \* Please refer to the Kakenhi (Grants-in-Aid for Scientific Research) Electronic Application System Operation Manual (URL: <a href="https://www-shinsei.jsps.go.jp/kaken/topkakenhi/shinsei\_ka.html">https://www-shinsei.jsps.go.jp/kaken/topkakenhi/shinsei\_ka.html</a>) for the detailed information such as operating environments, operating methods, and so on.
- \* After the researcher has given a consent to become a Co-Investigator, the information on the Co-Investigator-to-be will be shown to the research institution to which he/she belongs via the electronic application system, and then it will be necessary to obtain a consent, etc. from the research institution as well.
  - \* Since the Principal Investigator cannot submit (send) the Research Proposal Document to his/her research institution until the research institution to which the Co-Investigator-to-be belongs gives the consent, etc., be sure to finish the process in time for the deadline of the submission.

#### 3) Research Collaborator

- (A) Research Collaborator is an individual who cooperates in the implementation of a research project other than the PI and the Co-I(s).
- (B) Registration as "Eligible for KAKENHI application" in the e-Rad system is *not* a requirement for becoming a Research Collaborator.

  For example, following person can also participate in the research project as a Research

Collaborator: a postdoctoral researcher, a graduate student, a research assistant (RA), a JSPS Research Fellow (\*), a researcher belonging to an overseas research institution, a researcher belonging to a corporation not designated as a research institution according to Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research, and an individual offering

research support such as technician and intellectual property specialist.

(\*) JSPS Fellows (SPD, PD, RPD or CPD) who are *not* registered as eligible for KAKENHI application in their host her research institution, and JSPS fellows (DC)

[The Participation of Early-Career Researcher to Project Members (Principal Investigator and Co-Investigator) in Fostering Joint International Research (B)]

Since this research category seeks to foster researchers who can play leading roles within the international scientific area and lead to maintain and develop the infrastructure of joint international research in medium- to long-term, participation of early-career researcher to project members (Principal Investigator and Co-Investigator) is required.

- < Application Requirements of Early-Career Researcher >
- (1) An applicant who is less than 8 years after the acquisition of his/her Ph.D. as of April 1, 2022 (A researcher who acquired Ph.D. between April 2, 2014 and April 1, 2022.)
  - (2) An applicant who is deemed less than 8 years after acquisition of his/her Ph.D. by exempting as of April 1, 2022(\*) the period(s) of childcare leave etc. (prenatal/postpartum break, childcare leave).
    - (\*) Calculate the sum total of the leave periods, round up the total period to the year unit and then subtract it from the number of years after Ph.D. acquisition (Example: If the applicant has taken 6-month childcare leave three times, the years to be subtracted will be 2 (1 year and 6 months → 2 years))

An applicant must register the "Date of Ph.D. Acquisition" in the e-Rad system at the time of proposal submission. Since the registration to the e-Rad system cannot be made by the applicant him/herself, the applicant should request the administrative section of his/her institution to register the Date of Ph.D. Acquisition in the e-Rad system in time for the proposal submission. If the applicant has more than one Ph.D. degree, enter the first acquisition date.

In addition, please also note the below points for organizing project members.

- At least 3 domestic researchers should be involved in the project members (Principal Investigator and Co-Investigator) in principal including at least one early-career researcher.
- In case the project members (Principal Investigator and Co-Investigator) consists only of early-career researchers, it is eligible to organize project members consist of 2 or less early-career researchers.

#### 3 Requirements for the Appropriation of Research Expenditure

1) Expenditures that can be covered by direct expense

Expenditures necessary for the implementation of the research plan (including those

### necessary for summarization of the research achievements) can be covered by the direct expense.

\* If any of the expenditure categories (equipment costs, travel expenses, or personnel cost/honoraria) exceeds 90% of the total yearly expenditure in any FY of the research period, or if the expenditure in category Consumables or Miscellaneous constitutes a significant portion of the total expenditure, the necessity of that spending should be clarified in Research Proposal Document

### [Direct Expense of Competitive Research Funds to Cover the Costs of Assignments Other Than Research]

The cost of "buyout" (*i.e.*, the cost for hiring someone taking over a part of the duties other than research (\*) of the Principal Investigator or Co-Investigator(s)) can be covered by the direct expense so that they can secure ample amount of time for research projects (the buyout system).

\* The kinds of duties that can be covered by the buyout system are those authorized as proper jobs of the researcher at his/her research institution, excluding (i) research activities, and (ii) administrative work for institutional management. They include educational and related activities, e.g., educational activities (teaching and preparation for teaching, supervising students) and social engagement activities (medical practices, outreach activities). Activities associated with business profit are excluded.

Starting from the FY2021 Call for Proposals, the buyout system is applicable in the research categories listed below. A KAKENHI applicant who wish to use the buyout system should do so according to the buyout scheme agreed upon between him/her and his/her research institution.

When an applicant wishes to use the buyout system, enter the cost of the buyout in the "Miscellaneous expense" column, and enter the word "buyout" in the "Item" column of the Research Proposal Document form. (Please refer to the supplementary volume of "Application Procedures for Grants-in-Aid for Scientific Research—KAKENHI—" (Forms/Procedures for Preparing and Entering a Research Proposal Document).

[Research categories subject to the buyout system]

Specially Promoted Research, Transformative Research Areas (excluding Scientific Research on Innovative Areas Platforms for Advanced Technologies and Research Resources), Scientific Research on Innovative Areas (Research in a Proposed Research Area) (excluding "Platforms for Advanced Technologies and Research Resources"), Scientific Research, Challenging Research (including "Challenging Exploratory Research"), Early-Career Scientists (including "Young Scientists (A/B)"), Research Activity Start-up, Fostering Joint International Research (B), Home-Returning Researcher Development Research (limited to those who belongs to the domestic research institutions), Special Purposes.

[Research categories *not* subject to the buyout system]

Encouragement of Scientists, Publication of Scientific Research Results, JSPS Fellows, Transformative Research Areas (Scientific Research on Innovative Areas Platforms for Advanced Technologies and Research Resources), Scientific Research on Innovative Areas (Research in a Proposed Research Area) (Platforms for Advanced Technologies and Research Resources), Fostering Joint International Research (A) (including the Joint International Research before name change). As for the research category of Fostering Joint International Research (A) (including the Joint International Research before name change) it is possible to budget the cost for hiring replacements.

As for the details of the expenses covered by the buyout system and matters to be done by the research institution refer to the following.

"Amendment Enabling Direct Expense of Competitive Research Funds to Cover the Costs of Duties Other Than Research (Introduction of Buyout System)" (Oct 9, 2020, Agreement among Research Promotion Bureau, Science and Technology Policy Bureau, Research and Development Bureau and Higher Education Bureau)

https://www.mext.go.jp/a menu/shinkou/torikumi/1385716 00003.htm

The objective of the buyout system is to increase the number of hours the PI (or Co-I) can devote to the funded project on the basis of his/her own needs and request. Accordingly, items such as the actual presence of the PI's (or Co-I's) needs and request, and the resulting expansion of research time devoted to the funded project (increased number of hours for research) may be subject to later inspection in relation to the grant spending. In the event that the buyout expenditure is found to be used improperly (e.g., the increase in hours devoted to the funded project is not verified), an order to return the delivered grant may be issued. Therefore, the research institution should ensure the appropriate implementation of the buyout system.

#### 2) The following kinds of spending cannot be covered by KAKENHI:

- A.Costs associated with buildings and other facilities (excluding expenditure for installations necessary for installation of research equipment purchased by the KAKENHI direct expense).
- B. Expenditures for measures to deal with accidents or disasters that occurred during the implementation of funded project
- C. Personnel cost/Honoraria for the PI or Co-I(s)
- D. Other expenditures that are apt to be covered by indirect expense\*
- \* Indirect expense which amounts to 30% of the direct expense, is intended for use by the research institution in covering expenditures needed by the research institution for the management and other things associated with the implementation of the research project. Indirect expense will be placed for all the research categories of this Call for Proposals. Applicant does not need to state the indirect expense in his/her Research Proposal Document.

#### 4. Selection by the Applicant of a Desired Review Section in the Review Process

The applicant should select one of the Medium-sized Section from Attached Table 2 "The

**Review Section Table for the Grants-in-Aid for Scientific Research-KAKENHI-** "(See page 62) as a suggested review section for his/her research proposal.

#### 4. Completion of Research Ethics Education Course or Other etc.

Principal Investigators and Co-Investigators taking part in a research funded by the KAKENHI, are requested to have completed properly the following procedures including research ethics, by the time they submit the formal application for grant delivery of a newly adopted research project in the FY2022 Grants-in-Aid for Scientific Research, and upon the formal application for a grant delivery, it shall be confirmed through the electronic application system whether they will have taken the research ethics education coursework, etc.

If a PI or Co-I completed the research ethics related procedures in the past, or has moved from the research institute at which he/she completed the procedure, he/she should check with the administrative section of his/her current institution for the validity of the procedure he/she conducted in the past.

#### [Actions to be taken by the Principal Investigator]

- The PI must either read through and learn the teaching materials by oneself concerning the research ethics education coursework such as "For the Sound Development of Science The Attitude of a Conscientious Scientist" published by the Editorial Committee of the JSPS named "For the Sound Development of Science, the "e-Learning Course on Research Ethics [eL CoRE] or "APRIN e-learning program (eAPRIN)", or attend a lecture on research ethics conducted by research institutes based on "Guidelines for Responding to Misconduct in Research (Adopted by the MEXT on August 26, 2014), by the time of the formal application for grant delivery.
- The PI must understand thoroughly and exercise the proper research practices in conducting their research, from amongst the contents of both the statement "Code of Conduct for Scientists -Revised Version-" by the Science Council of Japan and the booklet "For the Sound Development of Science -The Attitude of a Conscientious Scientist-" issued by the JSPS, by the time of the formal application for grant delivery.
- From each Co-Investigator-to-be, the PI must
- ① obtain a consent of participation in the research project as a Co-I through the electronic application system and also a consent expressing "the completion of a seminar attendance or other kinds of coursework relevant to research ethics by the time of the formal application for the grant delivery of the research project in question", by the time of submitting (sending) the Research Proposal Document to the research institution which the PI belongs to, and;
- ② ascertain that the Co-I has actually completed the coursework such as an attendance at the lecture on research ethics by the time of the formal application for the grant delivery.

[Actions to be taken by the Co-Investigator]

• The Co-I must provide the PI with both a consent of the participation in the research project as a

Co-Investigator via the electronic application system and a consent expressing "the completion

of a seminar attendance or other kinds of coursework relevant to research ethics by the time of

the formal application for the grant delivery of the research project in question".

• The Co-I must either read through and learn the teaching materials by oneself concerning the

research ethics education coursework such as "For the Sound Development of Science - The

Attitude of a Conscientious Scientist" published by the Editorial Committee of the JSPS named

"For the Sound Development of Science, the "e-Learning Course on Research Ethics [eL CoRE]

or "APRIN e-learning program (eAPRIN)", or attend a lecture on research ethics conducted by

research institutes based on "Guidelines for Responding to Misconduct in Research (Adopted by

the MEXT on August 26, 2014), and report the PI to the effect that he/she has done, by the time

of the formal application for the grant delivery by the PI.

• The Co-I must understand thoroughly and exercise the proper research practices in conducting

their research, from amongst the contents of both the statement "Code of Conduct for Scientists

-Revised Version-" by the Science Council of Japan and the booklet "For the Sound

Development of Science -The Attitude of a Conscientious Scientist-" issued by the JSPS, and

report the PI to the effect that he/she has done, by the time of the formal application for the grant

delivery by the PI.

5. Registration of the Researcher Information in "researchmap"

The "researchmap (https://researchmap.jp/)" is the Japan's largest researcher information

database as a general guide to Japanese researchers. The information on the research

achievements registered in the "researchmap" is ready to be openly available over the Internet

and the database itself is linked to the e-Rad, other many university faculty databases and so on,

and also the Japanese Government as a whole is going to further utilize the "researchmap".

Furthermore, since the posted information in the "researchmap" and/or the database of the

Grants-in-Aid for Scientific Research (KAKEN) is to be handled as a reference according to the

necessity in the review of the KAKENHI, the registration of the researcher information into the

"researchmap" is encouraged. In addition, when doing so, make sure to register the "Researcher

Number" because the posted information is to be searched with the "Researcher Number" when

referring to the posted information in the "researchmap" at the review.

< Inquiries >

Service Support Center (in charge of the "researchmap")

Department for Information Infrastructure

Japan Science and Technology Agency

Web inquiry form: https://researchmap.jp/public/inquiry/

#### 6. Cooperation to Review

The Grants-in-Aid for Scientific Research-KAKENHI- adopts a peer-review process in which the researchers selected from their own community engaged themselves in the assessment and reviewing of each research proposals on the basis of its scientific merit. The KAKENHI review is conducted thanks to the cooperation of more than 8,000 researchers as reviewers. The peer review forms the basis of the autonomy of academic community and plays an important role in ensuring quality of scientific research and its improvement. The review of applications is carried out with the constructive and mutually critical spirit of scientists and based on the purely academic value. It is no exaggeration to say that the KAKENHI review system is indispensable in supporting Japan's scientific research into the future among other research funds.

The Grants-in-Aid for Scientific Research (KAKENHI) program is supported by researchers who have responsibilities not only to conduct the funded research projects as applicants and grant recipients but also as a reviewer. It is important for researchers to find out excellent research proposals as reviewers in order to support the scientific research as is the case of putting out excellent research results with KAKENHI funds. It is expected that the above-stated understanding is share in the academic community. Furthermore, participating to the review process has an aspect of fostering researchers through enhancing their capability to conduct the objective and academic assessments based on the various views of fellow reviewers leading up to broaden their horizons.

In order to support the peer-review system of KAKENHI by the whole body of researchers by appropriately sharing the burden of proposal review without putting an extra load on some researchers. The researchers' positive participation in the review process is well appreciated when they are requested to become the KAKENHI reviewer by JSPS or MEXT in the future. JSPS has registered the Principal Investigators' information including their names and affiliated research institutions in the Database of Review Committee Candidate (approx. 141,000entries as of FY2021) and has utilized it so as to select the fair and excellent reviewers. The request to update the registered information is made through the researchers' research institutions every April (planned), researchers' cooperation for updating is also well appreciated.

#### IV. Instructions for Grant Recipients

### 1. Handling of a Research Project to be Continued in FY2022 (hereafter referred to as "continued research project")

For a continued research project, the PI does not need to submit any application form afresh. However, he/she has to prepare and submit the necessary documents, including the form of the formal application for grant delivery, after receiving a notification of the provisional grant decision. It is in principle not permitted to withdraw a continued KAKENHI project in order to apply for a new KAKENHI grant, however handling of the case differ for different research categories other than Specially Promoted Research.

### A case in which a continued research project has proceeded beyond expectation, and the original research goal has already been reached

In principle, it is not allowed to withdraw the continued research project and submit a new proposal. If the PI of the continued project decides that his/her project proceeded beyond expectation and research goal has already been reached, and he/she intends to pursue a new research development by transferring to another research category, he/she may opt to apply for the Fostering Joint International Research (B) of a new KAKENHI grant, after submitting a "Notice of Completion of Research Project" and a "Statement of Reason" (refer to the supplementary edition "Forms/Procedures for Preparing and Entering a Research Proposal Document") by May 10, 2022(Tuesday). (Documents that arrive later will not be accepted.)

Note that, if the content of the "Statement of Reason" is deemed inappropriate by the review panel, the new KAKENHI proposal is excluded from the review. Even in this case, the grant for the continued research project of which the PI has already filed the "Notice of Completion of Research Project" cannot be reclaimed after the successive fiscal year(s). Note that, if the content of the "Statement of Reason" is deemed inappropriate by the review panel, the new KAKENHI proposal is excluded from the review. Even in this case, the grant for the continued research project of which the PI has already filed the "Notice of Completion of Research Project" cannot be reclaimed after the successive fiscal year(s).

## 2. Handling of Continued Research Projects Whose PI Fails to Submit the Report on the Research Achievements of his/her Other KAKENHI Project

As is the case for new proposal submissions, no KAKENHI will be delivered to a researcher who fails to submit the Report on the Research Achievements at the end of the research period, without any justifiable reason. In such cases, a cancellation of the official grant decision and an order for refund of the grant may be issued. In addition, the information such as the name of the research institute of the said researcher may be made public.

Furthermore, if a researcher fails to submit the scheduled Report on the Research Achievements without any justifiable reason, then he/she may be ordered to suspend the spending of his/her

other KAKENHI grant(s) for the same fiscal year.

#### 3. Completion of Research Ethics Education Coursework, etc.

The PI should check with the administrative section of his/her institution about the rules concerning the research ethics education coursework, etc. For a continued research project upon the formal application for a grant delivery or request for payment in every fiscal year, it shall be confirmed through the electronic application system whether the PI and Co-I(s) have taken the research ethics education coursework, etc.

In case that the PI intends to add a new Co-Investigator to the continued project in FY2022, the PI has to obtain a consent to become a Co-Investigator from the researcher via the electronic application system in advance.

In this case, the Co-Investigator-to-be has to complete the followings prior to the formal application for grant delivery and report to the PI what he/she has done. (Or, in case the grant has been already delivered, he/she has to do the followings by the time the "application for approval of change of the Co-Investigator" is submitted by the PI to JSPS).

- Either to read through and learn the teaching materials by oneself concerning the research ethics education coursework such as "For the Sound Development of Science The Attitude of a Conscientious Scientist" published by the Editorial Committee of the JSPS named "For the Sound Development of Science, the "e-Learning Course on Research Ethics [eL CoRE] or "APRIN e-learning program (eAPRIN)", etc., or to attend a lecture on research ethics conducted by research institutes based on "Guidelines for Responding to Misconduct in Research (adopted by the MEXT on August 26, 2014)
- To understand thoroughly and to exercise the proper research practices in conducting their research, from amongst the contents of both the statement "Code of Conduct for Scientists -Revised Version-" by the Science Council of Japan and the booklet "For the Sound Development of Science -The Attitude of a Conscientious Scientist-" issued by the JSPS

#### VI. Other Relevant Issues

#### 1. Promotion of the Shared Use of Research Equipment

In "Reform of Competitive Research Funds: Towards a Sustained Output of Research Achievements (Interim Summary)" (June 24, 2015, Competitive Research Fund Reform Review meeting) it was decided that, when the original research objectives were fully achieved, versatile and large equipment should, in principle, be shared.

The government also addresses the need to promote the implementation and common use of research facilities and equipment, to establish a framework for the introduction, renewal, and utilization of organizational research facilities (core facilities), and to formulate and publicize policies for the internal and external sharing of research facilities and equipment in the Comprehensive Package to Strengthen Research Capacity and Support Young Researchers (January 23, 2020, Council for Science, Technology, and Innovation) and the Sixth Science, Technology, and Innovation Basic Plan (Cabinet Decision on March 26, 2021).

With this in mind, when purchasing equipment with competitive research funds, please actively work on the use of equipment purchased with other research funds, and the purchase and shared use of equipment from several research funds where it concerns especially large and versatile equipment. Please also make ensure that sharing is possible within the rules of the said competitive research funds, and no obstacle is made to the execution of the research project.

O"Management of Research Organizations and the Introduction of a New, Unified System for the Shared Use of Research Equipment"

(November 25, 2015, Advanced Research Foundation Division, Science and Technology Council)

URL: https://www.mext.go.jp/b menu/shingi/gijyutu/gijyutu17/houkoku/1366220.htm

O"The Sixth Science, Technology, and Innovation Basic Plan (Cabinet Decision on March 26, 2021)"

URL: https://www8.cao.go.jp/cstp/kihonkeikaku/6honbun.pdf

Ounified Rules for Administrative Procedures, Etc. Pertaining to Competitive Research Funds (March 3, 2021, Agreement of the Liaison Meeting of Related Offices and Ministries on Competitive Research Funds)

URL: https://www8.cao.go.jp/cstp/compefund/toitsu\_rule\_r30305.pdf

### 2. Promotion of the 'Dialogue on Science and Technology with Citizens' (A Basic Approach Policy)

In the "Promotion of the 'Dialogue on Science and Technology with Citizens' (A Basic Course of Action)" (Adopted by the Minister of State for Science and Technology Policy and the Executive Members of the Council for Science and Technology Policy on June 19, 2010) which was compiled in June 2010, the activity in which researchers explain the content and achievements of their research activities to society and citizens in an easy-to-understand form is placed in the above-mentioned "Dialogue on Science and Technology with Citizens." Researchers who have

received an allotment of public research funds amounting more than 30 million yen per year per case

are requested to positively work on the "Dialogue on Science and Technology with Citizens."

Universities and other research institutions are also requested to make positive efforts in order for

researchers who have received public research funds to ensure the proper implementation of the

"Dialogue on Science and Technology with Citizens," for example, by setting up support systems.

For KAKENHI, there is the question "Are you positively trying to publicize and disseminate the

research content and research achievements?" especially in the research progress assessment of

Specially Promoted Research, for which researchers receive a relatively high amount of research

funds, and the interim/ex-post assessment of Scientific Research on Innovative Areas (Research in a

Proposed Research Area). Therefore, based on the above-mentioned basic policy, researchers should

disseminate the achievements of research funded with KAKENHI to society and citizens in an even

more positive way.

3. Cooperation with the National Bioscience Database Center

The National Bioscience Database Center (URL: https://biosciencedbc.jp/) has been established in

the Japan Science and Technology Agency (JST, a national research and development agency), in

order to promote the integrated use of databases in the area of life science that have been created by

various research institutions and other institutions.

This Center spurs the active participation of related institutions, and based on four pillars, namely (1)

the planning of strategies, (2) creation and operation of portal websites, (3) research on and

development of core technology for the integration of databases and (4) the promotion of the

integration of biotechnology-related databases, it is promoting projects aiming at the integration of

databases in the area of life science. In this way, through wide sharing and utilization of the research

achievements in the area of life science produced in Japan in the researcher community, the Center

aims at invigorating overall research in the area of life science, including research and development

connected to basic research and industrial applied research.

JSPS would like to request researchers to cooperate by providing to the Center copies of raw data

related to achievements published in research papers and other output in the area of life science, or

copies of created open databases.

Moreover, the copies provided will be able to be utilized on a non-exclusive basis as reproductions,

alterations, or in other necessary forms. JSPS would like researchers to understand in advance that,

in response to the requests of the institutions that received copies, it would also like request

researchers to cooperate by providing all the information necessary for utilizing the copies.

Furthermore, the National Bioscience Database Center has developed guidelines for data on humans,

in order to promote the sharing and use of data related to research in the area of life science, with

due considerations to the protection of personal information.

NBDC Human Data Sharing Guidelines

URL: https://humandbs.biosciencedbc.jp/guidelines/

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< Inquiries >

National Bioscience Database Center, Japan Science and Technology Agency

Telephone: 03-5214-8491

4. Inter-University Bio-Backup Project

The purpose of the Inter-University Bio-Backup Project (IBBP) is to "back up" biological genetic

resources, which are indispensable research resources in various research areas, and to avoid damage

or loss of biological genetic resources due to unforeseen accidents, disasters, etc. The project newly

commenced from 2012.

In the National Institute for Basic Biology of the Inter-University Research Institute Corporation

National Institutes of Natural Sciences, which is the core of this project, the Inter-University

Bio-Backup Project for Basic Biology (IBBP Center, URL: http://www.nibb.ac.jp/ibbp/) has been

established as a backup center for biological genetic resources. It is equipped with the newest

equipment necessary for the backup of biological genetic resources.

Any researcher who belongs to a university or a research institution may apply for storage.

Biological genetic resources that can be stored in the IBBP Center are samples that can be

proliferated (amplified) or cryopreserved (for vegetable seeds, the refrigeration or deep-freezing

preservation condition needs to be definite), and being not pathogenic is also a condition. Since

backup is provided free of charge, researchers should make use of the IBBP Center.

< Inquiries >

Executive Office, IBBP Center, Inter-University Research Institute Corporation National Institutes of

Natural Sciences Telephone: 0564-59-5930, 5931

5. National BioResource Project

The National BioResource Project (NBRP) strategically collects and preserves important

bioresources that are the basic and foundation of life science research at the core bases of this project

and provides them to universities and research institutes, thereby contributing to the development of

life science research in Japan. In the future, in order to contribute to the development of life science

research in Japan, it is necessary to continually collect useful bioresources.

For that matter, please deposit(\*) available bioresources among bioresources developed by

Grants-in-Aid for Scientific Research (limited to the bioresource targeted for NBRP). Please

cooperate with the NBRP collecting activities.

It is recommended to utilize the resources already collected in NBRP from the viewpoint such as

efficient implementation of research.

(\*) Deposit: This is a procedure to approve the use (preservation/provision) in this project without

transferring the various rights related to the resource. By specifying specific conditions in

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the deposit agreement, you can add usage conditions such as restrictions on usage and

quotation of articles to users.

List of NBRP core bases representative agencies

URL: <a href="https://nbrp.jp/resource/">https://nbrp.jp/resource/</a>

< Inquiries >

Division of Genomic Medicine, Department of Health and Clinical Data, Japan Agency for Medical

Research and Development

Telephone: 03-6870-2228

6. Security Export Control Policy (Coping with Technology Leakage Overseas)

In Japan, export controls (\*) are carried out under the Foreign Exchange and Foreign Trade Act

(Act No. 228 of 1949) (hereinafter referred to as "Foreign Exchange Act"). Therefore, in

principle, in order to export (provide) cargo and technology regulated by the Foreign Exchange

Act, it is necessary to obtain permission of the Minister of Economy, Trade and Industry. It is

reminded that KAKENHI grantees must observe the Foreign Exchange Act as well as other laws,

guidelines and circular notices issued by the government.

(\*) Japan's Security Export Control System established on the basis of international agreements

mainly consists of (i) "List rules" which require permission of the Minister of Economy, Trade and

Industry in principle when exporting cargo or providing technology that carry specifications and/or

functions higher than certain levels, such as carbon fiber and numerically controlled machine tool

etc., and (ii) "Catch-all regulation" which requires permission of the Minister of Economy, Trade

and Industry when exporting cargo or providing technology that are not subject to regulation under

the List rules but do fall under certain regulatory requirements (application requirements,

consumer requirements and/or informed requirements).

Not only export of cargo but also provision of technology will be subject to the regulation by the

Foreign Exchange Act. When providing a "List rules" technology to non-residents or providing it

in a foreign country, prior permission for provision is required. "Provision of technology"

includes not only providing technical information such as design drawings, specifications,

manuals, samples, and prototypes via storage media such as paper, mail, CD, USB memory, but

also providing work knowledge and technical assistance at seminars through technical instruction,

skill training, etc. Researchers should be aware that there may be case in which technologies

subject to regulation by the Foreign Exchange Act are involved when mentoring foreign students

and/or joint research activities with oversea groups.

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For this reason, in implementing various research activities including research projects funded with KAKENHI, research institutions are asked to take systematic measures to ensure that the research achievements which have potential risks of being diverted to military use are not transferred to WMD developers, terrorist organizations, or people carrying out other dubious activities.

Details of the security trade control are published on the websites including the Ministry of Economy, Trade and Industry website.

<u>OMinistry of Economy, Trade and I</u>ndustry: Security Trade Control (General) https://www.meti.go.jp/policy/anpo/

OMinistry of Economy, Trade and Industry: "Handbook on Security Trade Control" <a href="https://www.meti.go.jp/policy/anpo/seminer/shiryo/handbook.pdf">https://www.meti.go.jp/policy/anpo/seminer/shiryo/handbook.pdf</a>

OCenter for Information on Security Trade Controls https://www.cistec.or.jp/index.html

O"Guidance for the Control of Sensitive Technologies for Security Export for Academic and Research Institutions 3rd Edition" https://www.meti.go.jp/policy/anpo/law\_document/tutatu/t07sonota/t07sonota jishukanri03.pdf

#### 7. Strict Implementation of United Nations Security Council Resolution 2321

In the face of the nuclear test by Democratic People's Republic of Korea (DPRK) in September 2016 and repeated launches of ballistic missiles, the United Nations Security Council adopted the United Nations Security Council Resolution 2321 on November 30, 2016 (ET, New York) deciding to impose additional and stronger sanctions on DPRK. In this regard, MEXT issued a letter of request entitled, "Strict Implementation of United Nations Security Council Resolution 2321 (Request)" (28 受文科際第 98 号) to relevant organizations as of February 17, 2017.

"Scientific and technical cooperation" as set forth in Paragraph 11 in the main text of the Resolution not only includes technologies regulated by the Foreign Exchange and Foreign Trade Act of Japan, but all cooperative activities except for medical exchanges. Therefore, it is critical that research institutions exercise strict implementation of the Resolution when conducting various research activities including said sponsored research.

The UNSC Resolution 2321 can be found at:

MOFA: United Nations Security Council Resolution 2321, Japanese translation (MOFA Notice No.
 463 (issued on December 9, 2016)

https://www.mofa.go.jp/mofaj/files/000211409.pdf

#### 8. Improvement of Treatment of Students in the Doctoral Course

"The Sixth Science, Technology, and Innovation Basic Plan" (Cabinet Decision on March 26,

2021) addresses the need to enhance financial support for doctoral students in particular, in order to attract outstanding talents from home and abroad, and calls for research institutions to provide greater employment opportunities for doctoral students as research assistants (RAs) and to improve their treatment. To this end, the Basic Plan, for example, sets a numerical target to increase the number of students in doctoral programs receiving the amount equivalent to living expenses to about three times the current number (which is equivalent to about 30% of all doctoral students receiving the amount equivalent to living expenses).

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Furthermore, the "Guideline on Recruiting and Fostering Postdoctoral Fellows, Etc. (December 3, 2020, Committee on Human Resources, the Council for Science and Technology)" states that doctoral students "are students, but at the same time, also researchers in a certain way, and therefore it is the key responsibility of universities that foster researchers to provide the environment for research activities and to ensure proper treatment...It is of particular importance to treat them based on appropriate assessment of their contribution, by establishing compensations that meet the nature and content of their jobs and paying hourly wages according to the actual work hours under the proper labor management...When submitting applications to competitive research funds and other grants, universities and institutions must record the expenditures necessary to employ RAs as direct expense, and revise the school rules as necessary to make sure that the RAs are paid proper compensations."

Based on the above, when employing a doctoral student as RA, etc. for a KAKENHI project, set the hourly wage according to the nature and content of his/her job based on the standard of each research institution and pay the wage according to the actual work hours under the proper labor management.

Furthermore, when employing a doctoral student as RA, etc., be mindful not to overload him/her with excessive work hours and make sure that he/she can maintain a good balance between the work and his/her own research and study hours.

## 9. Securing University Research Administrators (URAs) and other Management Personnel

"The Sixth Science, Technology, and Innovation Basic Plan" (Cabinet Decision on March 26, 2021) identifies the importance of efforts to improve the security of professional quality and treatment so that the positions of University Research Administrators (URAs) and other management personnel will become attractive. The Comprehensive Package to Strengthen Research Capacity and Support Young Researchers (January 23, 2020, Council for Science, Technology, and Innovation) also addresses the need to establish career paths for management personnel, URAs, engineers, etc.

In light of these initiatives, research institutions are encouraged, to the extent possible, to secure

certain lengths of fixed-term employment (of about five years or longer) for URAs and other management personnel (who are currently hired or will be hired newly by research institutions) when engaging them in the management of KAKENHI research programs, by using not only KAKENHI, but also funds such as indirect expenses and basic costs under other external funds, and donations, for example.

In addition, please make active efforts to provide support in securing career paths for these management personnel, for example, enrolling them in URA training, etc. Also consider utilizing the indirect expenses for such efforts.

#### 10. Promoting Gender Equality in JSPS Programs

For the advancement of science, it is important to secure an environment that allows diverse researchers to exercise their potentials and advance their activities. In March 2020, JSPS established the Basic Guidelines for Promoting Gender Equality in JSPS Programs to promote gender equal participation in the areas of science.

As part of this initiative, JSPS opened a new website CHEERS! (https://cheers.jsps.go.jp/) in an aim to support the diverse careers of all researchers, such as balancing research activities and life events. JSPS will release useful information on, for example, how to balance research and child raising and actively carry out various initiatives through CHEERS! to create a network among researchers. Researchers are encouraged to visit the website.

### Attached Table 2

# Grants-in-Aid for Scientific Research-KAKENHI"Review Section Table"

<ul> <li>About the Review Section Table</li> </ul>		• 63
∘The Review Section Table (Overview) • • • • • • • • • • • • • • • • • • •	•	• 64
∘The Review Section Table (Table for Basic Section) • • •	•	• (Omitted)
∘The Review Section Table (Table for Medium-sized and Broad Sections) • • • • • •		• 71

### December 22, 2016

Subdivision on Research Grant Screening Section of the Academic Deliberation in the Subdivision on Science, Council for Science and Technology

#### About the Review Section Table

- The Review Section Table is classified by sections for the KAKENHI's review criteria. Applicants should select a review section that is most suitable for their own research proposal.
- ○There are three review sections: Basic, Medium-sized and Broad. The Review Section Table contains 1) Overview, 2) Table for Basic Section, 3) Table for Medium-sized and Broad Sections. Looking at the Overview, the applicants can understand an overall picture of sections. In addition, check the each Review Section Table for the detailed contents of each section and select a review section for their research proposal.
- ○The Basic Section is the fundamental unit. The Basic Section applies to "Grant-in-Aid for Scientific Research (B/C) (application section "General")" and for "Grant-in-Aid for Early-Career Scientists". Each item of Basic Section offers some examples related research contents. They help applicants understand the concrete contents. However, it does not exclude proposal of contents other than if applicants' contents are not included the examples.
- ○The Medium-sized Section applies to "Grant-in-Aid for Scientific Research (A) (application section "General")" and "Grant-in-Aid for Challenging Research (Pioneering/Exploratory)". Several Basic Sections are attached to indicate the scope of review for the Middle-sized Section. However, it does not exclude proposal of contents other than the Basic Sections included in the Middle-sized Section. In addition, some items of Basic Sections belong to multiple Middle-sized Sections, so applicants can select a Middle-sized Section that seems to be most suitable for their own research proposal.
- The Broad Section applies to "Grant-in-Aid for Scientific Research (S)".
  Several Medium-sized Sections are attached to indicate the scope of review of the Broad Section.
  However, it does not exclude proposal of contents other than the Medium-sized Sections included in the Broad Section. Some items of Medium-sized Sections belong to several Broad Sections, so applicants can select a Broad Section that seems to be most suitable for their own research proposal.
- To respond flexibly to research diversity in the review process, application in the Basic, Medium-sized and Broad Sections is made in the following formats: Basic Section: "○○ -related"; Medium-sized Section: "○○ and related fields," and Broad Section: listed alphabetically.

# The Review Section Table (Overview)

Medium-size	d Section 1: Philosophy, art, and related fields
	Basic Section
01010	Philosophy and ethics-related
01020	Chinese philosophy, Indian philosophy and
01020	Buddhist philosophy-related
01030	Religious studies-related
01040	History of thought-related
01050	Aesthetics and art studies-related
01060	History of arts-related
01070	Theory of art practice-related
01080	Sociology of science, history of science and
01000	technology-related
90010	Design-related
Medium-size	d Section 2:Literature, linguistics, and related fields
	Basic Section
02010	Japanese literature-related
02020	Chinese literature-related
02030	English literature and literature in the English
02030	language-related
02040	European literature-related
02050	Literature in general-related
02060	Linguistics-related
02070	Japanese linguistics-related
02080	English linguistics-related
02090	Japanese language education-related
02100	Foreign language education-related
90020	Library and information science, humanistic
	and social informatics-related
Medium-size	d Section 3: History, archaeology, museology,
and rela	nted fields
	Basic Section
03010	
03020	Japanese history-related
03030	<u> </u>
03040	7 1
03050	<i>C3</i>
03060	·
03070	e,
	d Section 4: Geography, cultural anthropology,
folklore	e, and related fields
	Basic Section
04010	
04020	8 8 1 7
04030	1 67
80010	Area studies-related
80020	Tourism studies-related
80030	Gender studies-related

d Sec	ction A (co	ontinued)
Med	lium-sized	Section 5 : Law and related fields
		Basic Section
	05010	Legal theory and history-related
	05020	Public law-related
	05030	International law-related
	05040	Social law-related
	05050	Criminal law-related
	05060	Civil law-related
	05070	New fields of law-related
Med	lium-sized	Section 6: Political science and related fields
		Basic Section
	06010	Politics-related
	06020	International relations-related
	80010	Area studies-related
	80030	Gender studies-related
Med	lium-sized	Section 7 : Economics, business administration,
	and relate	ed fields
		Basic Section
	07010	Economic theory-related
	07020	Economic doctrines and economic thought-related
	07030	Economic statistics-related
	07040	Economic policy-related
	07050	Public economics and labor economics-related
	07060	Money and finance-related
	07070	Economic history-related
	07080	Business administration-related
	07090	Commerce-related
	07100	Accounting-related
	80020	Tourism studies-related
Med	lium-sized	Section 8 : Sociology and related fields
		Basic Section
	08010	Sociology-related
	08020	Social welfare-related
	08030	Family and consumer sciences, and culture and living-related
i		Tourism studies-related
	80020	1 ourism studies-related

ad Section A	A (co	ontinued)
Medium-si	ized	Section 9: Education and related fields
		Basic Section
090	010	Education-related
090	020	Sociology of education-related
090	)30	Childhood and nursery/pre-school education-related
090	140	Education on school subjects and primary/
090	J4U	secondary education-related
090	)50	Tertiary education-related
090	)60	Special needs education-related
090	070	Educational technology-related
090	080	Science education-related
020	)90	Japanese language education-related
021	100	Foreign language education-related
Medium-si	ized	Section 10 : Psychology and related fields
		Basic Section
100	010	Social psychology-related
100	)20	Educational psychology-related
100	)30	Clinical psychology-related
100	040	Experimental psychology-related
900	030	Cognitive science-related

d Section	В	
Medium	-sized	Section 11: Algebra, geometry, and related fields
		Basic Section
1	1010	Algebra-related
	1020	Geometry-related
Medium	-sized	Section 12: Analysis, applied mathematics, and related field
		Basic Section
1:	2010	Basic analysis-related
1:	2020	Mathematical analysis-related
1:	2030	Basic mathematics-related
13	2040	Applied mathematics and statistics-related
Medium	-sized	Section 13: Condensed matter physics and related fields
		Basic Section
1.	3010	Mathematical physics and fundamental theory of
	2010	condensed matter physics-related
1.	3020	Semiconductors, optical properties of condensed
1.	3020	matter and atomic physics-related
11	2020	Magnetism, superconductivity and strongly
1.	3030	correlated systems-related
13	3040	Biophysics, chemical physics and soft matter physics-related
Medium	-sized	Section 14: Plasma science and related fields
		Basic Section
14	4010	Fundamental plasma-related
14	4020	Nuclear fusion-related
14	4030	Applied plasma science-related
80	0040	Quantum beam science-related
Medium	-sized	Section 15: Particle-, nuclear-, astro-physics, and related fie
		Basic Section
80	0040	Quantum beam science-related
	5010	Theoretical studies related to particle-, nuclear-,
1:	5010	cosmic ray and astro-physics
	5000	Experimental studies related to particle-, nuclear-,
1:	5020	cosmic ray and astro-physics
Medium	-sized	Section 16: Astronomy and related fields
		Basic Section
10	6010	Astronomy-related
Medium	-sized	Section 17: Earth and planetary science and related fields
		Basic Section
1	7010	Space and planetary sciences-related
-	7020	Atmospheric and hydrospheric sciences-related
	7030	Human geosciences-related
-	7040	Solid earth sciences-related
-	7050	Biogeosciences-related

Section C		Broad Sec	ction D	
Medium-sized	Section 18: Mechanics of materials,	Med	lium-sized	l Se
production	on engineering, design engineering, and related fields			
	Basic Section		26010	M
18010	Mechanics of materials and materials-related		26020	In
18020	Manufacturing and production engineering-related		26030	C
18030	Design engineering-related		26040	St
18040	Machine elements and tribology-related		26050	M
Medium-sized	Section 19: Fluid engineering,		26060	M
thermal e	engineering, and related fields	Med	lium-sized	l Se
	Basic Section			
19010	Fluid engineering-related		27010	Tı
19020	Thermal engineering-related		27020	+
Medium-sized	Section 20: Mechanical dynamics, robotics, and related fields		27030	С
	Basic Section		27040	В
20010	Mechanics and mechatronics-related	Med	lium-sized	l Se
20020	Robotics and intelligent system-related			
Medium-sized	Section 21: Electrical and electronic engineering		28010	N
and relate	ed fields	]	28020	N
	Basic Section	]	28030	N
21010	Power engineering-related		28040	N
21020	Communication and network engineering-related		28050	N
21030	Measurement engineering-related	Med	lium-sized	Se
21040	Control and system engineering-related			
21050	Electric and electronic materials-related		29010	A
21060	Electron device and electronic equipment-related		29020	T
Medium-sized	Section 22: Civil engineering and related fields		29030	A
	Basic Section	Med	lium-sized	l Se
22010	Civil engineering material, execution and			
	construction management-related		30010	C
22020	Structure engineering and earthquake engineering-related		30020	О
22030	Geotechnical engineering-related	Med	lium-sized	l Se
22040	Hydroengineering-related		energy ei	ngi
22050	Civil engineering plan and transportation			
	engineering-related		31010	N
22060	Environmental systems for civil engineering-related		31020	E
	Section 23: Architecture, building engineering,	Med	lium-sized	l Se
and relate	ed fields			
	Basic Section		90110	В
23010	Building structures and materials-related		90120	В
23020	Architectural environment and building equipment-related		90130	M
23030	Architectural planning and city planning-related		90140	M
23040	Architectural history and design-related		90150	M
90010	Design-related			
Medium-sized	Section 24: Aerospace engineering,			
marine a	nd maritime engineering, and related fields			
	Basic Section			
24010	Aerospace engineering-related			
24020	Marine engineering-related			
Medium-sized	Section 25: Social systems engineering,			
safety en	gineering, disaster prevention engineering, and related fields			
	Basic Section			
25010	Social systems engineering-related			
25020	Safety engineering-related			
25020	, , ,			

d Sec	tion D	
Medi	ium-sized	Section 26: Materials engineering and related fields
		Basic Section
	26010	Metallic material properties-related
	26020	Inorganic materials and properties-related
		Composite materials and interfaces-related
		Structural materials and functional materials-related
		Material processing and microstructure control-related
		Metals production and resources production-related
Medi	L	Section 27: Chemical engineering and related fields
TVICO.	lain sizea	Basic Section
	27010	Transport phenomena and unit operations-related
		Chemical reaction and process system engineering-related
		Catalyst and resource chemical process-related
	-	
Mod		Biofunction and bioprocess engineering-related Section 28: Nano/micro science and related fields
Med	luiii-sizea	Basic Section
	20010	T
		Nanometer-scale chemistry-related
	-	Nanostructural physics-related
		Nanomaterials-related
		Nanobioscience-related
	<u> </u>	Nano/micro-systems-related
Medi	ium-sized	Section 29: Applied condensed matter physics and related field
		Basic Section
	-	Applied physical properties-related
		Thin film/surface and interfacial physical properties-related
	<u> </u>	Applied condensed matter physics-related
Medi	ium-sized	Section 30: Applied physics and engineering and related field
		Basic Section
	30010	Crystal engineering-related
	30020	Optical engineering and photon science-related
Med		Section 31: Nuclear engineering, earth resources engineering,
	energy er	ngineering, and related fields
		Basic Section
	31010	Nuclear engineering-related
	31020	Earth resource engineering, Energy sciences-related
Medi	ium-sized	Section 90: Biomedical engineering and related fields
		Basic Section
	90110	Biomedical engineering-related
	90120	Biomaterials-related
	90130	Medical systems-related
	90140	Medical technology assessment-related
	90150	Medical assistive technology-related

d Section E	
Medium-sized	Section 32: Physical chemistry,
functiona	al solid state chemistry, and related fields
	Basic Section
32010	Fundamental physical chemistry-related
32020	Functional solid state chemistry-related
Medium-sized	Section 33: Organic chemistry and related fields
	Basic Section
22010	Structural organic chemistry
33010	and physical organic chemistry-related
33020	Synthetic organic chemistry-related
Medium-sized	Section 34: Inorganic/coordination chemistry,
analytica	al chemistry, and related fields
	Basic Section
34010	Inorganic/coordination chemistry-related
34020	Analytical chemistry-related
24020	Green sustainable chemistry
34030	and environmental chemistry-related
Medium-sized	Section 35: Polymers, organic materials, and related fields
	Basic Section
35010	Polymer chemistry-related
35020	Polymer materials-related
35030	Organic functional materials-related
Medium-sized	Section 36: Inorganic materials chemistry,
energy-r	related chemistry, and related fields
	Basic Section
36010	Inorganic compounds and inorganic materials
30010	chemistry-related
36020	Energy-related chemistry
Medium-sized	Section 37: Biomolecular chemistry and related fields
	Basic Section
37010	Bio-related chemistry
27020	Chemistry and chemical methodology of
37020	biomolecules-related
37030	Chemical biology-related

d Sec	tion F	
Med	ium-sized	Section 38 : Agricultural chemistry and related fields
		Basic Section
	38010	Plant nutrition and soil science-related
	38020	Applied microbiology-related
	38030	Applied biochemistry-related
	38040	Bioorganic chemistry-related
	38050	Food sciences-related
	38060	Applied molecular and cellular biology-related
Med	ium-sized	Section 39: Agricultural and environmental biology
	and relate	ed fields
		Basic Section
	39010	Science in plant genetics and breeding-related
	39020	Crop production science-related
	39030	Horticultural science-related
	39040	Plant protection science-related
	39050	Insect science-related
	39060	Conservation of biological resources-related
	39070	Landscape science-related
Med	ium-sized	Section 40: Forestry and forest products science,
	applied a	quatic science, and related fields
		Basic Section
	40010	Forest science-related
	40020	Wood science-related
	40030	Aquatic bioproduction science-related
	40040	Aquatic life science-related
Med	ium-sized	Section 41: Agricultural economics and rural sociology,
	agricultu	ral engineering, and related fields
		Basic Section
	41010	Agricultural and food economics-related
	41020	Rural sociology and agricultural structure-related
	41030	Rural environmental engineering and planning-related
		Agricultural environmental engineering and
	41040	agricultural information engineering-related
	41050	Environmental agriculture-related
Med	ium-sized	Section 42: Veterinary medical science, animal science,
	and relate	ed fields
		Basic Section
	42010	Animal production science-related
	42020	Veterinary medical science-related
	42030	Animal life science-related
	42040	Laboratory animal science-related
<u> </u>		J

l Section G	
Medium-sized	Section 43: Biology at molecular to cellular levels,
and relate	ed fields
	Basic Section
43010	Molecular biology-related
43020	Structural biochemistry-related
43030	Functional biochemistry-related
43040	Biophysics-related
43050	Genome biology-related
43060	System genome science-related
Medium-sized	Section 44: Biology at cellular to organismal levels,
and relate	ed fields
	Basic Section
44010	Cell biology-related
44020	Developmental biology-related
44030	Plant molecular biology and physiology-related
44040	Morphology and anatomical structure-related
44050	Animal physiological chemistry, physiology and
44030	behavioral biology-related
Medium-sized	Section 45: Biology at organismal to population levels
and anth	ropology, and related fields
	Basic Section
45010	Genetics-related
45020	Evolutionary biology-related
45030	Biodiversity and systematics-related
45040	Ecology and environment-related
45050	Physical anthropology-related
45060	Applied anthropology-related
Medium-sized	Section 46: Neuroscience and related fields
	Basic Section
46010	Neuroscience-general-related
46020	Anatomy and histopathology of nervous system-related
46030	Function of nervous system-related

d Sec	ction H	
Med	ium-sized	Section 47: Pharmaceutical sciences and related fields
		Basic Section
	47010	Pharmaceutical chemistry and drug development sciences-related
	47020	Pharmaceutical analytical chemistry and physicochemistry-related
	47030	Pharmaceutical hygiene and biochemistry-related
	47040	Pharmacology-related
	47050	Environmental and natural pharmaceutical resources-related
	47060	Clinical pharmacy-related
Med	ium-sized	Section 48: Biomedical structure and function and related fields
		Basic Section
	48010	Anatomy-related
	48020	Physiology-related
	48030	Pharmacology-related
	48040	Medical biochemistry-related
Med	ium-sized	Section 49: Pathology, infection/immunology, and related fields
		Basic Section
	49010	Pathological biochemistry-related
	49020	Human pathology-related
	49030	Experimental pathology-related
	49040	Parasitology-related
	49050	Bacteriology-related
	49060	Virology-related
	49070	Immunology-related

d Sec	tion I	
Medi	ium-sized	Section 50: Oncology and related fields
		Basic Section
	50010	Tumor biology-related
	50020	Tumor diagnostics and therapeutics-related
Medi	ium-sized	Section 51: Brain sciences and related fields
		Basic Section
	51010	Basic brain sciences-related
	51020	Cognitive and brain science-related
	51030	Pathophysiologic neuroscience-related
Medi	ium-sized	Section 52: General internal medicine and related fields
		Basic Section
	52010	General internal medicine-related
	52020	Neurology-related
	52030	Psychiatry-related
	52040	Radiological sciences-related
	52050	Embryonic medicine and pediatrics-related
Medi	ium-sized	Section 53: Organ-based internal medicine and related fiel
		Basic Section
	53010	Gastroenterology-related
	53020	Cardiology-related
	53030	Respiratory medicine-related
	53040	Nephrology-related
Medi	53050 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information
Medi	53050 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields
Medi	53050 ium-sized integratio	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section
Medi	53050 ium-sized integratio	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related
Medi	53050 ium-sized integratio 54010 54020	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section
Medi	53050 ium-sized integratio	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related
	53050 ium-sized integratio 54010 54020 54030 54040	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related  Connective tissue disease and allergy-related  Infectious disease medicine-related  Metabolism and endocrinology-related
	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related
	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related  Connective tissue disease and allergy-related  Infectious disease medicine-related  Metabolism and endocrinology-related  Section 55: Surgery of the organs maintaining
	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related  Connective tissue disease and allergy-related  Infectious disease medicine-related  Metabolism and endocrinology-related  Section 55: Surgery of the organs maintaining asis and related fields  Basic Section
	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related
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	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related  Connective tissue disease and allergy-related  Infectious disease medicine-related  Metabolism and endocrinology-related  Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related  Digestive surgery-related  Cardiovascular surgery-related
	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related
	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and functions and related fields
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized sensory f	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and functions and related fields  Basic Section
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 ium-sized sensory f	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and functions and related fields  Basic Section  Neurosurgery-related
Medi	53050 ium-sized integration 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized sensory f	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and functions and related fields  Basic Section  Neurosurgery-related Orthopedics-related
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized sensory f 56010 56020 56030	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and functions and related fields  Basic Section  Neurosurgery-related Orthopedics-related Urology-related Urology-related
Medi	53050 ium-sized integratio 54010 54020 54030 54040 ium-sized homeosta 55010 55020 55030 55040 55050 55060 ium-sized sensory f 56010 56020 56030 56040	Dermatology-related Section 54: Internal medicine of the bio-information on and related fields  Basic Section  Hematology and medical oncology-related Connective tissue disease and allergy-related Infectious disease medicine-related Metabolism and endocrinology-related Section 55: Surgery of the organs maintaining asis and related fields  Basic Section  General surgery and pediatric surgery-related Digestive surgery-related Cardiovascular surgery-related Respiratory surgery-related Anesthesiology-related Emergency medicine-related Section 56: Surgery related to the biological and functions and related fields  Basic Section  Neurosurgery-related Orthopedics-related Urology-related Obstetrics and gynecology-related

Med	ium-sized	Section 57: Oral science and related fields
WICU.	iuiii-sizeu	Basic Section
	57010	1
		Oral polyable is a price of a pri
	57020	Oral pathobiological science-related
	57030	Conservative dentistry-related
	57040	Regenerative dentistry and dental engineering-related
	57050	Prosthodontics-related
	57060	Surgical dentistry-related
	57070	Developmental dentistry-related
	57080	Social dentistry-related
Medi	um-sized	Section 58: Society medicine, nursing, and related fields
		Basic Section
	58010	Medical management and medical sociology-related
	58020	Hygiene and public health-related: including laboratory approac
	58030	Hygiene and public health-related: excluding laboratory approach
	58040	Forensics medicine-related
	58050	Fundamental of nursing-related
	58060	Clinical nursing-related
	58070	Lifelong developmental nursing-related
	58080	Gerontological nursing and community health nursing-related
Medi	ium-sized	Section 59: Sports sciences, physical education,
	health sc	iences, and related fields
		Basic Section
	59010	Rehabilitation science-related
	59020	Sports sciences-related
	59030	Physical education, and physical and health education-related
	59040	Nutrition science and health science-related
Med	ium-sized	Section 90: Biomedical engineering and related fields
		Basic Section
	90110	Biomedical engineering-related
	90120	Biomaterials-related
	90130	Medical systems-related
	90140	Medical technology assessment-related

d Section J	
Medium-sized	Section 60: Information science, computer engineering,
and relate	ed fields
	Basic Section
60010	Theory of informatics-related
60020	Mathematical informatics-related
60030	Statistical science-related
60040	Computer system-related
60050	Software-related
60060	Information network-related
60070	Information security-related
60080	Database-related
60090	High performance computing-related
60100	Computational science-related
Medium-sized	Section 61: Human informatics and related fields
	Basic Section
61010	Perceptual information processing-related
61020	Human interface and interaction-related
61030	Intelligent informatics-related
61040	Soft computing-related
61050	Intelligent robotics-related
61060	Kansei informatics-related
90010	Design-related
90030	Cognitive science-related
Medium-sized	Section 62: Applied informatics and related fields
	Basic Section
62010	Life, health and medical informatics-related
62020	Web informatics and service informatics-related
62030	Learning support system-related
62040	Entertainment and game informatics-related
00020	Library and information science,
90020	humanistic and social informatics-related

d Section K	
Medium-sized	Section 63: Environmental analyses and evaluation
and relat	red fields
	Basic Section
63010	Environmental dynamic analysis-related
63020	Radiation influence-related
63030	Chemical substance influence on environment-related
63040	Environmental impact assessment-related
Medium-sized	Section 64: Environmental conservation measure
and relat	ed fields
	Basic Section
64010	Environmental load and risk assessment-related
64020	Environmental load reduction and remediation-related
64030	Environmental materials and recycle technology-related
64040	Social-ecological systems-related
64050	Sound material-cycle social systems-related
64060	Environmental policy and social systems-related

#### The Review Section Table (Table for Medium-sized and Broad Sections)

When selecting a review section, applicants should first acquire an overall picture of the review sections based on the Review Section Table (Overview). In addition, check the Review Section Table (Table for Medium-sized and Broad Sections) for the detailed contents of each section and select a review section for their research proposal.

Also, some items of Basic Section may be presented in plural Medium-sized and Broad Sections. The items of Basic Section presented in plural Medium-sized Section are 9 and 3 items among 9 are presented in plural Medium-sized and Broad Sections (as shown below).

In addition, five other Basic Sections (90110-90150) may be presented in only one Medium-sized Section and two Broad Sections.

# [Basic sections may be presented in plural Medium-sized and Broad Section]

Basic Section Item	Basic Section Description	Medium-sized Sections corresponding Basic Sections	Broad Sections corresponding Basic Sections
02090	Japanese language education-related	2, 9	A
02100	Foreign language education-related	2, 9	A
80010	Area studies-related	4, 6	A
80020	Tourism studies-related	4, 7, 8	A
80030	Gender studies-related	4, 6, 8	A
80040	Quantum beam science-related	14, 15	В
90010	Design-related	1, 23, 61	А, С, Ј
90020	Library and information science, humanistic and social informatics-related	2, 62	A, J
90030	Cognitive science-related	10,61	A, J
90110	Biomedical engineering-related	9 0	D, I
90120	Biomaterials-related	9 0	D, I
90130	Medical systems-related	9 0	D, I
90140	Medical technology assessment-related	9 0	D, I
90150	Medical assistive technology-related	9 0	D, I

# [Medium-sized section may be presented in plural Broad Section]

Medium-sized Section Item	Medium-sized section Description	Broad Sections corresponding Medium-sized Section
9 0	Biomedical engineering and related fields	D, I

# Broad Section A Medium-sized Section 1: Philosophy, art, and related fields Basic Examples of related research content Section Philosophy and ethics-related Philosophy in general, Ethics in general, Western philosophy, Western ethics, Japanese philosophy, Japanese ethics, 01010 Applied ethics, etc. Chinese philosophy, Indian philosophy and Buddhist philosophy-related Chinese philosophy/thought, Indian philosophy/thought, Buddhist philosophy, Bibliography, Philology, etc. 01020 Religious studies-related History of religions, Philosophy of religion, Theology, Sociology of religion, Psychology of religion, 01030 Anthropology of religion, Studies of religious folklore, Mythology, Bibliography, Philology, etc. History of thought-related History of thought in general, History of Western thought, History of Eastern thought, 01040 History of Japanese thought, etc. Aesthetics and art studies-related Philosophy of art, Aesthetics, Miscellaneous art studies, etc. 01050 History of arts-related Japanese art, Eastern art, Western art, Contemporary art, Craft, Design, Architecture, 01060 Costume, Photography, etc. Theory of art practice-related Art expression, Arts management, Art policy, Art production, etc. 01070 Sociology of science, history of science and technology-related Sociology of science, History of science, History of technology, History of medicine, Industrial archeology, 01080 Philosophy of science, Foundation of science, STS (Science, technology and society), etc. Design-related Information design, Environmental design, Industrial design, Spatial design, Design history, Theory of design, 90010 Design standard, Design support, Evaluation of design, Design education, etc. Medium-sized Section 2: Literature, linguistics, and related fields Basic Examples of related research content Section Japanese literature-related 02010 Japanese literature in general, Ancient literature, Medieval literature, Chinese classics in Japan, Bibliography, Philology, Premodern literature, Modern literature, Contemporary literature, Literary theory, etc. Chinese literature-related Chinese literature, Bibliography, Philology, Literary theory, etc. 02020 English literature and literature in the English language-related

English literature, American literature, Literature in the English language, Literary theory, Bibliography,

French literature, Literature in the French language, German literature, Literature in the German language,

Classics, Russian and East European literature, Literature in other European languages, Literary theory,

02030

02040

Philology, etc.

European literature-related

Bibliography, Philology, etc.

1 1		Ten and the second second
		Literature in general-related
	02050	Literature in other languages and areas, Literary theory, Comparative literature, Bibliography, Philology, Literature education, etc.
		Linguistics-related
	02060	Phonetics/phonology, Semantics/pragmatics, Morphosyntax, Sociolinguistics, Contrastive linguistics, Psycholinguistics, Neurolinguistics, Historical linguistics, Corpus linguistics, Endangered and minority languages, etc.
		Japanese linguistics-related
	02070	Phonetics/phonology, Writing systems, Lexicon and semantics, Grammar, Stylistics, Pragmatics, Language life, Dialect, History of the Japanese language, History of Japanese linguistics, etc.
		English linguistics-related
	02080	Phonetics/phonology, Lexicon and semantics, Grammar, Stylistics, Pragmatics, Sociolinguistics, Diversity of the English language, Corpus linguistics, History of the English language, History of English linguistics, etc.
		Japanese language education-related
		Research on learners, Language acquisition, Teaching material, Curriculum evaluation,
	02090	Japanese language education for specific purposes, Bilingual education, Research on teachers,
		Japanese language for Japanese language education, History of Japanese language education, Cross-cultural understanding, etc.
		Foreign language education-related
		Learning method, Computer-assisted language learning (CALL), Teaching material, Language testing,
	02100	Theory of second language acquisition, Early English education,
		History of foreign language education and language policies, Curriculum evaluation, Training foreign language teachers, Cross-cultural understanding, etc.
		Training foreign language teachers, cross-cultural understanding, etc.
		Library and information science, humanistic and social informatics-related
	90020	Library science, Information services, Information organizing, Information retrieval, Information media, Bibliometrics, Information resources, Information ethics, Digital humanities, Social Informatics, Digital archives, etc.
Mediur	m-sized Sect	tion 3: History, archaeology, museology, and related fields
	Basic Section	Examples of related research content
		Historical studies in general-related
	03010	Historical theory, Historical methodology, Research in historical materials, Memory and medium, World history, History of cultural and diplomatic exchange, Comparative history, etc.
		Japanese history-related
		Japanese history in general, History of ancient Japan, History of medieval Japan,
	03020	History of early modern Japan, History of modern Japan, History of local Japan, History of Japanese culture,
		History of Japanese religion, History of Japanese environment, History of Japanese city,
		History of cultural and diplomatic exchange, Comparative history, Research in historical materials, etc.
		History of Asia and Africa-related
	03030	History of pre-modern China, History of modern China, East Asian history, Central Eurasian history,
	03030	Southeast Asian history, Oceanian history, South Asian history, West Asian history, African history, History of cultural and diplomatic exchange, Comparative history, Research in historical materials, etc.
		History of Europe and America-related
	03040	Ancient European history, Medieval European history, Modern and contemporary West European history,
		Modern and contemporary East European history, North and South American history, History of cultural and diplomatic exchange, Comparative history, Research in historical materials, etc.
		Archaeology-related
	02050	Archaeology in general, Prehistoric archaeology, Historical archaeology, Japanese archaeology,
	03050	Asian archaeology, Ancient civilizations, History of material culture, Experimental archaeology, Information archaeology, Study of buried cultural property, etc.

	Cultural assets study-related
03060	Dating methods, Material analysis, Production techniques, Conservation science, Archaeological prospection, Plant and animal residues, Human remains, Cultural heritage, Cultural resources, Cultural property policy, etc.
	Museology-related
03070	Exhibition studies, Museum pedagogy, Museum informatics, Museum business management, Public finance and administration of museums, Museum material resources, History of museology, etc.
Medium-sized Sect	tion 4: Geography, cultural anthropology, folklore, and related fields
Basic Section	Examples of related research content
	Geography-related
04010	Geography in general, Land use, Landscape, Environmental system, Geomorphology, Climatology, Hydrology, Cartography, Geographic information system, Regional planning, etc.
	Human geography-related
04020	Human geography in general, Economic geography, Social geography, Political geography, Cultural geography, Urban geography, Rural geography, Historical geography, Regional geography, Geography education, etc.
	Cultural anthropology and folklore-related
04030	Cultural anthropology in general, Folklore in general, Material culture, Ecology, Social relationship, Religion, Arts, Health care, Border crossing, Minority, etc.
	Area studies-related
80010	Area studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.
	Tourism studies-related
80020	Tourism studies in general, Tourism, Tourism resources, Tourism policy, Tourism industry, Regional development, Tourists, Pilgrimage, etc.
	Gender studies-related
80030	Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.
Iedium-sized Sect	tion 5 : Law and related fields
Basic Section	Examples of related research content
	Legal theory and history-related
05010	Legal philosophy, Roman law, Legal history, Sociology of law, Comparative law, Foreign law, Law and policy, Law and economics, Judicial system, etc.
	Public law-related
05020	Constitutional law, Administrative law, Tax law, etc.
	International law-related
05030	Public international law, Private international law, International human rights law, International economic law, EU law, etc.
	Social law-related
05040	Labor law, Economic law, Social security law, Education law, etc.
	Criminal law-related
05050	Criminal law, Criminal procedure, Criminology, Criminal justice policy, Juvenile law, Law and psychology, etc.
	Civil law related
05060	Civil law-related Civil law, Commercial law, Civil procedure, Insolvency law, Alternative dispute resolution, etc.
05060	Civil law, Collinercial law, Civil procedure, hisolvency law, Alternative dispute resolution, etc.

Description	1 1		New fields of law-related
Law and gender, Legal profession, etc.  Medium-sized Section 6: Political science and related fields  Basic Section  Political theory, History of political thought, Political history, Japanese political history, Japanese political Professional Political process, Electoral studies, Political conomy, Public administration, Local government, Comparative politics, Public policy, etc.  International relations-related  Theory of international relations, Modern international relations, Diplomatic history, International International cooperation, International political economy, Global governance, International cooperation, etc.  Area studies-related  Area studies-related  Area studies-related  Area studies-related April Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Provironment, Transnationalism, Globalization, Social development, etc.  Gender studies-related  Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7: Feonomics, business administration, and related fields  Basic Section  Economic Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic theory-related  07010  Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic doctrines and economic thought-related  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic doctrines, Benomic thought, Social thought, Economic philosophy, etc.  Economic philosophy-related  107040  Economic statistics-related  07040  Area studies-related  07040  Monetary economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics, Pelated  Monetary economics, Finance, International finance, Corpor		0.5050	
Basic Section Politics-related Politics-related Political theory, History of political thought, Political history, Japanese political process, Electoral studies, Political conomy, Public administration, Local government, Comparative politics, Public policy, etc.  International relations-related Theory of international relations, Modern international relations, Diplomatic history, International history, Foreign polity, International relations, Diplomatic history, International history, International cooperation, etc.  Area studies-related Rollo Area studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc. Gender studies in general, Premism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7 : Economics, business administration, and related fields  Basic Examples of related research content  Feonomic theory-related Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought, Economic institutions, Economic systems, etc.  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related  07030 Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Econometrics, Financial econometrics, etc.  Public economic, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Industrial organization, Economic development, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history, Pasted  Economic history, Pasiness history, Industrial history, etc.		05070	
Section Politics-related Politics-related Politics (Politics) Political theory, History of political thought, Political history, Japanese politics, Political process, Electoral studies, Political economy, Public administration, Local government, Comparative politics, Public policy, etc.  International relations-related Theory of international security, International relations, Diplomatic history, International history, Foreign policy, International security, International political economy, Global governance, International ecoperation, etc.  Area studies-related Area studies-related Gender studies-related Gender studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Medium-sized Section 7 : Economics, Improve technology, Gender equality, etc.  Medium-sized Section 7 : Economics, business administration, and related fields  Basic Section Feonomic theory-related Feonomic theory-related Teconomic theory-related Feonomic doctrines and economics, Genne theory, Behavioral economics, Experimental economics, Economic systems, etc.  Economic doctrines and economic thought-related Economic doctrines, Economic thought-related Economic doctrines, Economic thought-related Teconomic doctrines, Financial economics, Economic philosophy, etc.  Economic philosophy, etc.  Economic philosophy, etc.  Economic philosophy, Economic philosophy, etc.  Economic philosophy, Economic philosophy, etc.  Economic philosophy, Economics, Philosophy, Economics, Philosophy, Economics, Philosophy, Economics, Economic, International development, etc.  Public economics an	Mediun	n-sized Sect	tion 6: Political science and related fields
Political theory, History of political thought, Political history, Japanese politics, Pholitical process, Electoral studies, Political economy, Public administration, Local government, Comparative politics, Public policy, etc.  International relations-related Theory of international relations, Modern international relations, Diplomatic history, International history, Foreign policy, International security, International political economy, Global governance, International cooperation, etc.  Area studies related Area studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies related Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7 : Economics, business administration, and related fields  Basic Section  Economic theory-related  Oriolo Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought-related  Economic doctrines, Economic thought-related  Stutistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Economic policy-related  National economics, Industrial organization, Economic development, Urban economics, Regional economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics, Development economics, Labor economics, Social security, Education economics, Law and economics, Political economy, Economic policy, Transportation economics, Health economics, Political economy, Economic policy, Transportation			Examples of related research content
Delitical process. Electoral studies, Political economy, Public administration, Local government, Comparative politics, Public policy, etc.  International relations-related Theory of international security, International relations, Diplomatic history, International history, Foreign policy, International security, International political economy, Global governance, International cooperation, Enternational ecoperation, enterrational ecoperation, Enternational ecoperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7 : Economics, business administration, and related fields  Basic Section  Economic theory-related  Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought-related  Economic doctrines and economic thought-related  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related  Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Economy, Environmental and resource economics, Japanese economy, Envolutional economics, Regional economy, Environmental and resource economics, Japanese economy, Envolutional economics, Development economics, Incansinal development, etc.  Public economics and labor economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history-related  Economic history-related  Cor			Politics-related
Theory of international relations, Modern international relations, Diplomatic history, International history, Foreign policy, International security, International political economy, Global governance, International cooperation, etc.  Area studies-related  Area studies in general, Cross-regional comparative studies, Aid, International cooperation, International exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7: Economics, business administration, and related fields  Basic Section  Economic theory-related  Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought-related  Economic doctrines, Economic thought-related  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related  37030  Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Economic statistics-related  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Industrial organization, Economic development, etc.  Public economics and labor economics, Health economics, International development, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		06010	Political process, Electoral studies, Political economy, Public administration, Local government,
Decided			International relations-related
Area studies in general, Cross-regional comparative studies, Aid, International cooperation, Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies-related Gender studies, Ingeneral, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7: Economics, business administration, and related fields  Basic Economic theory-related  Conomic theory-related  Economic theory-related  Economic doctrines, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic systems, etc.  Economic doctrines and economic thought-related  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic doctrines, Statistical research, Population statistics, Income/wealth distribution, National accounts, Economic philosophy, etc.  Economic policy-related  Orodo  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related  Oroso  Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history-related  Economic history, Business history, Industrial history, etc.		06020	Foreign policy, International security, International political economy, Global governance,
Interregional exchange, Environment, Transnationalism, Globalization, Social development, etc.  Gender studies-related Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7: Economics, business administration, and related fields  Basic Examples of related research content  Economic theory-related Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic doctrines and economic thought-related Economic doctrines and economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Econometrics, Financial econometrics, etc.  Economic policy-related  107040 International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related Economic history-related Economic history-gusiness history, Industrial history, etc.			Area studies-related
Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.    Medium-sized Section 7 : Economics, business administration, and related fields		80010	
Prostitution, Reproductive technology, Gender equality, etc.  Medium-sized Section 7 : Economics, business administration, and related fields  Economic theory, Economics, Deconomics, Game theory, Behavioral economics, Experimental economics, Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought-related  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related  Economic statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Economic policy-related  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics, Health economics, Labor economics, Social security, Education economics, Law and economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history-related  Economic history-related  Economic history-granization theory, Organizational behavior, Corporate strategy,			Gender studies-related
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Section  Examples of related research content  Economic theory-related  Microeconomics, Macroeconomics, Game theory, Behavioral economics, Experimental economics, Economic theory, Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related  Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Econometrics, Financial econometrics, etc.  Economic policy-related  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history-related  Economic history, Business history, Industrial history, etc.	Mediun	n-sized Sect	tion 7 : Economics, business administration, and related fields
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Economic theory, Evolutionary economics, Economic institutions, Economic systems, etc.  Economic doctrines and economic thought, Social thought, Economic philosophy, etc.  Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.  Economic statistics-related  Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Econometrics, Financial econometrics, etc.  Economic policy-related  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related  Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history, Business history, Industrial history, etc.  Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Economic theory-related
Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.    Economic statistics-related		07010	
Economic statistics-related  Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Econometrics, Financial econometrics, etc.  Economic policy-related  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related  Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history, Business history, Industrial history, etc.  Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Economic doctrines and economic thought-related
Statistical system, Statistical research, Population statistics, Income/wealth distribution, National accounts, Econometrics, Financial econometrics, etc.    Economic policy-related   International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.    Public economics and labor economics-related   Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.    Money and finance-related   Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.    Economic history-related   Economic history, Business history, Industrial history, etc.    Business administration-related   Corporation theory, Organization theory, Organizational behavior, Corporate strategy,   Corporate strategy   Corporate strategy   Corporate strategy   Corporate strategy   Corporate strategy   Corporate strategy   Corporate strate		07020	Economic doctrines, Economic thought, Social thought, Economic philosophy, etc.
Economic policy-related  International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related  Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history, Business history, Industrial history, etc.  Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Economic statistics-related
International economics, Industrial organization, Economic development, Urban economics, Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related  Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history, Business history, Industrial history, etc.  Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		07030	
Regional economy, Environmental and resource economics, Japanese economy, Economic policy, Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related Economic history, Business history, Industrial history, etc.  Business administration-related Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Economic policy-related
Transportation economics, Development economics, International development, etc.  Public economics and labor economics-related  Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related  Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related  Economic history, Business history, Industrial history, etc.  Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		07040	
Public finance, Public economics, Health economics, Labor economics, Social security, Education economics, Law and economics, Political economy, etc.  Money and finance-related Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related Economic history, Business history, Industrial history, etc.  Business administration-related Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		07040	
Education economics, Law and economics, Political economy, etc.  Money and finance-related Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related Economic history, Business history, Industrial history, etc.  Business administration-related Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Public economics and labor economics-related
Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.  Economic history-related Economic history, Business history, Industrial history, etc.  Business administration-related Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		07050	
Economic history-related  Economic history, Business history, Industrial history, etc.  Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Money and finance-related
Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		07060	Monetary economics, Finance, International finance, Corporate finance, Financial engineering, Insurance, etc.
Business administration-related  Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Economic history-related
Corporation theory, Organization theory, Organizational behavior, Corporate strategy,		07070	
Corporation theory, Organization theory, Organizational behavior, Corporate strategy,			Business administration-related
Management information, Industrial management, Management in general, etc.		07080	Corporation theory, Organization theory, Organizational behavior, Corporate strategy, Business management, Human resource management, Management of technology, International business,

		Commerce-related
0	7090	Marketing, Consumer behavior, Distributive sciences, Logistics, Commerce in general, etc.
		Accounting-related
0	7100	Financial accounting, Management accounting, Auditing, Accounting in general, etc.
		Tourism studies-related
8	0020	Tourism studies in general, Tourism, Tourism resources, Tourism policy, Tourism industry, Regional development, Tourists, Pilgrimage, etc.
Medium-siz	ed Sect	ion 8 : Sociology and related fields
	Basic ection	Examples of related research content
		Sociology-related
0.	8010	Sociology in general, Community, Family, Labor, Sociology of welfare, Gender, Media, Ethnicity, Social movements, Social research, Sociology of medicine, Social demography, etc.
		Social welfare-related
0.	8020	Social work, Social policy, Social welfare history, Child welfare, Social welfare for people with disabilities, Social welfare for aging, Community welfare, Poverty, Volunteerism, Social welfare in general, etc.
		Family and consumer sciences, and culture and living-related
	8030	Culture and living, Home economics, Consumer affairs, Lifestyle, Culture of clothing, Culture of food,
	8030	Culture of dwelling, Dress and fashion, Diet habits, Housing, Family and consumer sciences in general, Family and consumer education, etc.
		<u> </u>
		Tourism studies-related
8	0020	Tourism studies in general, Tourism, Tourism resources, Tourism policy, Tourism industry, Regional development, Tourists, Pilgrimage, etc.
		Gender studies-related
8	0030	Gender studies in general, Feminism, Sexuality, Queer studies, Labor, Violence, Prostitution, Reproductive technology, Gender equality, etc.
Medium-siz	ed Sect	ion 9 : Education and related fields
	Basic ection	Examples of related research content
		Education-related
0	9010	History of education, Philosophy of education, Curriculum and pedagogy, Evaluation of education, Teacher and trainer, School education, Social and community education, Vocational education and training, Lifelong learning, Institutions and administration, etc.
		Sociology of education-related
0	9020	Sociology of education, Socialization, Educational organization and system, Destination and career formation, Class disparities, Gender, Education policy, Comparative education, Globalization and development, etc.
		Childhood and nursery/pre-school education-related
0	9030	Childhood, Nursery/pre-school education, Right of child, Development, Contents and methods of child care, Childcare facilities and kindergarten, Caregiver and pre-school teacher, Child care support, Childhood culture, History and thought, etc.
		Education on school subjects and primary/secondary education-related
0	9040	Education of individual subjects, Education excluding subjects, Student guidance and counselling, Career education, School management, Teacher education, ESD, Environmental education, Literacy, etc.
		Tertiary education-related
0	9050	Policy, Admission and articulation, Curriculum, Career guidance, Teacher and staff, Scientific research, Regional link and contribution, Globalization, Management and governance, Non-university higher education, etc.
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	Special needs education-related
09060	Philosophy and history, Inclusion and cohesive society, Instructions and supports, Developmental disabilities, Emotional disturbance, Intellectual disabilities, Language disorders, Physical disabilities, Career education, etc.
	Educational technology-related
09070	Curriculum development, Teaching-learning support systems, Utilization of media, Utilization of ICT, Teacher's education, Information literacy, etc.
	Science education-related
09080	Science education, Science communication, Scientific literacy, Science and society, etc.
	Japanese language education-related
	Research on learners, Language acquisition, Teaching material, Curriculum evaluation,
02090	Japanese language education for specific purposes, Bilingual education, Research on teachers,
	Japanese language for Japanese language education, History of Japanese language education, Cross-cultural understanding, etc.
	Foreign language education-related
	r oreign ranguage education-related
	Learning method, Computer-assisted language learning (CALL), Teaching material, Language testing,
02100	Learning method, Computer-assisted language learning (CALL), Teaching material, Language testing, Theory of second language acquisition, Early English education,
02100	Learning method, Computer-assisted language learning (CALL), Teaching material, Language testing,

# Medium-sized Section 10 :Psychology and related fields

Basic Section	Examples of related research content
	Social psychology-related
10010	Social psychology in general, Self, Group, Attitude and behavior, Affection/emotion, Interpersonal relation, Social issues, Culture, etc.
	Educational psychology-related
10020	Educational psychology in general, Development, Family, School, Clinical practice, Personality, Learning, Assessment and evaluation, etc.
	Clinical psychology-related
10030	Clinical psychology in general, Psychological disorder, Assessment, Psychological intervention, Training, Mental health, Crime and delinquency, Community, etc.
	Experimental psychology-related
10040	Experimental psychology in general, Sensation, Perception, Attention, Memory, Language, Emotion, Learning, etc.
	Cognitive science-related
90030	Cognitive science in general, Cognitive models, Kansei, Human factors, Cognitive and brain science, Comparative cognition, Cognitive linguistics, Cognitive engineering, etc.

# Broad Section B

Medium-sized Section 11: Algebra, geometry, and related fields

Basic Section	Examples of related research content
11010	Algebra-related  Group theory, Ring theory, Representation theory, Algebraic combinatorics, Number theory, Arithmetic geometry, Algebraic geometry, Algebraic analysis, etc.
11020	Geometry-related  Differential geometry, Riemannian geometry, Symplectic geometry, Complex geometry, Topology,  Differential topology, Low dimensional topology, etc.

Medium-sized Sect	tion 12: Analysis, applied mathematics, and related fields
Basic Section	Examples of related research content
	Basic analysis-related
12010	Functional analysis, Complex analysis, Probability theory, Harmonic analysis, Operator theory, Spectral analysis, Operator algebras, Algebraic analysis, Representation theory, etc.
	Mathematical analysis-related
12020	Functional equations, Real analysis, Dynamical system, Variational method, Nonlinear analysis, Applied analysis, etc.
	Basic mathematics-related
12030	Mathematical logic and foundations, Information theory, Discrete mathematics, Computer mathematics, etc.
	Applied mathematics and statistics-related
12040	Numerical analysis, Mathematical modelling, Optimal control, Game theory, Statistical mathematics, etc.
Medium-sized Sect	tion 13:Condensed matter physics and related fields
Basic Section	Examples of related research content
	Mathematical physics and fundamental theory of condensed matter physics-related
13010	Statistical physics, Fundamental theory of condensed matter physics, Mathematical physics, Nonequilibrium nonlinear physics, Fluid dynamics, Computational physics, Quantum information theory, etc.
	Semiconductors, optical properties of condensed matter and atomic physics-related
13020	Semiconductors, Dielectrics, Atoms and molecules, Mesoscopic systems, Crystals, Surfaces and interfaces, Optical properties of condensed matter, Quantum electronics, Quantum information, etc.
	Magnetism, superconductivity and strongly correlated systems-related
13030	Magnetism, Strongly correlated electron systems, Superconductivity, Quantum fluids and solids, Molecular solids, etc.
	Biophysics, chemical physics and soft matter physics-related
13040	Physics of biological phenomena, Physics of biological matters, Liquids and glasses, Soft matters, Rheology, etc.
Medium-sized Sect	tion 14: Plasma science and related fields
Basic Section	Examples of related research content
	Fundamental plasma-related
14010	Basic plasmas, Magnetized plasmas, Laser plasmas, Strongly coupled plasmas, Plasma diagnostics, Astrophysical and space plasmas, etc.
	Nuclear fusion-related
14020	Plasma confinement, Plasma control, Plasma heating, Plasma diagnostics, Edge plasma, Plasma wall interaction, Inertial fusion, Fusion material, Fusion system, etc.
	Applied plasma science-related
14030	Plasma processing, Plasma photonics, Plasma material science, General plasma applications, etc.
	Quantum beam science-related
80040	Accelerators, Beam physics, Radiation detectors, Beam control, Applied quantum beam science, etc.
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	Basic	
	Section	Examples of related research content
		Quantum beam science-related
	80040	Accelerators, Beam physics, Radiation detectors, Beam control, Applied quantum beam science, etc.
		Theoretical studies related to particle-, nuclear-, cosmic ray and astro-physics
	15010	Particle physics, Nuclear physics, Cosmic-ray physics, Astrophysics, Relativity, Gravity, etc.
		Experimental studies related to particle-, nuclear-, cosmic ray and astro-physics
	15020	Particle physics, Nuclear physics, Cosmic-ray physics, Astrophysics, Relativity, Gravity, etc.
Mediu	m-sized Sec	tion 16: Astronomy and related fields
	Basic Section	Examples of related research content
		Astronomy-related
	16010	Optical/infrared astronomy, Radio astronomy, Solar physics, Astrometry, Theoretical astronomy, X-ray/ $\gamma$ -ray astronomy, etc.
Mediu	m-sized Sec	tion 17: Earth and planetary science and related fields
	Basic Section	Examples of related research content
		Space and planetary sciences-related
	17010	Solar-terrestrial physics, Aeronomy, Planetary science, Exoplanetary science, Extraterrestrial material science, etc.
		Atmospheric and hydrospheric sciences-related
	17020	Climate system, Atmospheric science, Ocean science, Limnology, Glaciology, Paleoclimatology, etc.
		Human geosciences-related
	17030	Geoenvironmental science, Natural disaster science, Geospatial information science, Quaternary research, Earth resources science, etc.
		Solid earth sciences-related
	17040	Solid earth geophysics, Geology, Earth's interior material science, Solid earth geochemistry, etc.
		Biogeosciences-related
	17050	Origin and evolution of life, Extremophile biology, Biogeochemistry, Paleoenvironmental science, Paleontology, etc.
ection	C	
Mediu	m-sized Sec	tion 18: Mechanics of materials, production engineering, design engineering, and related fields
	Basic Section	Examples of related research content
		Mechanics of materials and materials-related
	18010	Structural mechanics, Fatigue, Fracture, Biomaterials, Material design, Material characteristics, Material evaluation, etc.
	<b>———</b>	Manufacturing and production engineering-related

İ		Design engineering-related
	18030	Product design, Service design, Design for reliability, Maintainability design, Lifecycle engineering,
	18030	Reverse engineering, Safety design, Design engineering, etc.
		Machine elements and tribology-related
	18040	Machine elements, Mechanisms, Tribology, Actuators, Micromachines, etc.
Mediu	m-sized Sect	tion 19: Fluid engineering, thermal engineering, and related fields
	Basic Section	Examples of related research content
		Fluid engineering-related
	19010	Fluid machinery, Flow measurement, Computational fluid dynamics, Turbulence, Multiphase flow, Compressible flow, Incompressible flow, etc.
		Thermal engineering-related
	19020	Heat transfer, Convection, Combustion, Thermophysical properties, Refrigeration and air-conditioning, Heat engine, Energy conversion, etc.
Mediu	m-sized Sect	tion 20: Mechanical dynamics, robotics, and related fields
	Basic Section	Examples of related research content
		Mechanics and mechatronics-related
	20010	Kinematics, Kinetics, Vibration, Acoustics, Automation, Learning control, Mechatronics, Micro/nano mechatronics, Biomechanics, etc.
		Robotics and intelligent system-related
	20020	Robotics, Intelligent system, Human mechanical system, Human interface, Planning, Intelligent spatial system, Virtual reality, Augmented reality, etc.
Mediu	m-sized Sect	tion 21: Electrical and electronic engineering and related fields
	Basic Section	Examples of related research content
		Power engineering-related
	21010	Electrical energy-related, Energy conservation, Power system engineering, Electric machinery, Power electronics, Effective utilization of electric energy, Electromagnetic compatibility, etc.
		Communication and network engineering-related
	21020	Information theory, Nonlinear theory, Signal processing, Wired/wireless communication systems,
		Modulation/demodulation, Antennas, Networks, Multimedia, Cryptography/security, etc.
		Measurement engineering-related
	21030	Measurement theory, Measuring instruments, Applied wave metrology, Measurement systems, Signal processing, Sensing devices, etc.
		Control and system engineering-related
	21040	Control theory, System theory, Control systems, Knowledge-based control systems, System information processing, System control applications, Biosystems engineering, etc.
		Electric and electronic materials-related
	21050	Semiconductor, Dielectric materials, Magnetic materials, Organic materials, Superconductor, Composite materials, Thin films, Quantum structures, Thick films, Fabrication/characterization methods, etc.
		Electron device and electronic equipment-related
	21060	Electron devices, Circuit design, Optical devices, Spintronic devices, Millimeter wave/terahertz wave, Applied wave devices, Storage devices, Displays, Micro fabrication process technology,
		Implementation technology, etc.

	Basic	
	Section	Examples of related research content
		Civil engineering material, execution and construction management-related
	22010	Concrete, Steel, Composite material, Wood, Pavement material, Repair and reinforce material, Execution, Maintenance, Construction management, Underground space, etc.
		Structure engineering and earthquake engineering-related
	22020	Applied mechanics, Structure engineering, Steel structure, Concrete structure, Composite structure, Wind engineering, Earthquake engineering, Aseismatic structure, Earthquake prevention, etc.
		Geotechnical engineering-related
	22030	Soil mechanics, Foundation engineering, Rock engineering, Engineering Geology, Ground behavior, Soil structure, Geo-disaster prevention, Geoenvironmental engineering, Tunnel engineering, Soil environment, etc.
		Hydroengineering-related
	22040	Hydraulics, Environmental hydraulics, Hydrology, River engineering, Water resource engineering, Coastal engineering, Port and harbor engineering, Ocean engineering, etc.
		Civil engineering plan and transportation engineering-related
	22050	Civil engineering plan, Regional urban planning, Spatial planning, Disaster prevention plan, Transportation plan, Transportation engineering, Railway engineering, Surveying and remote sensing, Landscape design, Civil engineering history, etc.
		Environmental systems for civil engineering-related
	22060	Environment plan, Environmental system, Environment conservation, Water serve and drainage systems, Waste, Water environment, Atmospheric circulation, Noise and vibration, Environment ecology, Environmental monitoring, etc.
edium-	sized Sect	tion 23: Architecture, building engineering, and related fields
	Basic Section	Examples of related research content
		Building structures and materials-related
	23010	Load theory, Structural analysis, Structural design, Structures, Earthquake resistant design, Foundation, Geotechnics, Structural material, Maintenance, Building construction method, etc.
		Architectural environment and building equipment-related
	23020	Sound environment, Vibration environment, Light environment, Heat environment, Air environment, Environmental psychology/physiology, Building equipment, Fire engineering, Urban environment, Environment design, etc.
		Architectural planning and city planning-related
	23030	Planning theory, Design theory, Housing theory, Buildings, Urban/regional planning, Administration, Building economics, Production management, Disaster prevention planning, Landscape, etc.
		Architectural history and design-related
	23040	Architectural history, Urban history, Architectural theory, Design, Landscape, Preservation, Renovation, etc.
		Design-related
		Information design, Environmental design, Industrial design, Spatial design, Design history,
	90010	Theory of design, Design standard, Design support, Evaluation of design, Design education, etc.
edium-		Theory of design, Design standard, Design support, Evaluation of design, Design education, etc.  tion 24: Aerospace engineering, marine and maritime engineering, and related fields
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[edium-	sized Sect	tion 24: Aerospace engineering, marine and maritime engineering, and related fields

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n C			Marine engineering-related
(Broad Section C)		24020	Navigation, Structural mechanics, Structural design, Production technology, Marine propulsion, Marine transport, Marine development engineering, Underwater engineering, Polar engineering, Marine environmental technology, etc.
(Bro	Mediur	n-sized Sect	tion 25: Social systems engineering, safety engineering, disaster prevention engineering, and related fields
		Basic Section	Examples of related research content
			Social systems engineering-related
		25010	Social systems, Industrial engineering, Operations research, Industrial management, Reliability engineering, Policy science, Regulatory science, Quality control, etc.
			Safety engineering-related
		25020	Safety engineering, Safety system, Risk engineering, Risk management, Work safety, Product safety, Safety information, Human engineering, Liability engineering, etc.
			Disaster prevention engineering-related
		25030	Disaster prediction, Hazard map, Building prevention against disaster, Lifeline prevention against disaster, Regional disaster prevention planning, Risk evaluation of disaster, Disaster prevention policy, Disaster resilience, etc.
Broad	Section	D	
	Mediur	n-sized Sect	tion 26: Materials engineering and related fields
		Basic Section	Examples of related research content
			Metallic material properties-related
		26010	Electric and magnetic properties, Electronic information properties, Metastable states, Diffusion, Phase transformation, Phase diagram, Crystal lattice defects, Mechanical properties, Thermal and optical properties, Materials computational science, etc.
			Inorganic materials and properties-related
		26020	Functional ceramics, Functional glasses, Structural ceramics, Carbon-based materials,
		20020	Crystal structure analysis, Microstructure control, Electric properties, Mechanical properties, Physical and chemical properties, Grain boundary, etc.
			Composite materials and interfaces-related
		26020	Functional composite materials, Structural composite materials, Biocompatible composite materials,
		26030	Polymer composite, Surface treatment, Dispersion control, Joining and welding, Adhesive bonding, Interface properties, Gradient function, etc.
			Structural materials and functional materials-related
		26040	Social infrastructure materials, Toughness, Medical welfare materials, Functional polymer materials, Reliability, Photo-functional materials, Sensor materials, Energy materials, Battery functional materials, Environment functional materials, etc.
			Material processing and microstructure control-related
		26050	Processing and molding, Thermal treatment, Crystal microstructure control, Laser processing, Precision processing, Polishing, Powder metallurgy, Coatings, Metal plating, Corrosion and protection, etc.
			Metals production and resources production-related
		26060	Separation and purification, Melting and solidifying, Crystal growth, Casting, Resource security reservation, Scarce resources substitution, Low environment impact, Recycle, Ecomaterials, Energy saving, etc.
	Mediur	n-sized Sect	tion 27: Chemical engineering and related fields
		Basic Section	Examples of related research content
			Transport phenomena and unit operations-related
		27010	Phase equilibrium, Transport properties, Momentum/heat/mass transfer, Fluid-phase unit operation, Adsorption, Membrane separation, Mixing, Powder technology, Crystallization, Film formation, etc.

		Chemical reaction and process system engineering-related
	27020	Reaction operation, Novel reaction process, Reaction mechanism, Reactor design,
	27020	Materials synthesis process, Micro-chemical process, Process control, Process system design,
		Process informatics, etc.
		Catalyst and resource chemical process-related
	27030	Catalysis, Catalyst preparation, Catalytic function, Energy conversion process, Energy development,
		Energy-saving technology, Resources effective utilization technology, etc.
		Biofunction and bioprocess engineering-related
	27040	Biocatalyst engineering, Biofunction engineering, Food engineering, Medicochemical engineering,
		Bioproduction process, Nano-bioprocess, Bioreactor, Bioseparation, Biosensor, Biorefinery, etc.
Mediun	n-sized Sect	tion 28: Nano/micro science and related fields
	Basic Section	Examples of related research content
-		Nanometer-scale chemistry-related
	20010	Nanostructure creation, Clusters, Nanoparticles, Mesoscopic chemistry, Superstructures,
	28010	Nanometer-scale surfaces and interfaces, Self-assembly, Nanocarbons, Molecular devices,
		Nanometer-scale optical devices, etc.
		Nanostructural physics-related
	28020	Physics in nanoscale materials and structures, Nanoprobes, Quantum effects, Quantum dots,
		Quantum devices, Electron devices, Spin devices, Nanotribology, Nanocarbon physics, etc.
		Nanomaterials-related
	28030	Creation of nanomaterials, Analysis of nanomaterials, Nanosurfaces, Nanointerfaces,
	20030	Functional nanomaterials, Nanostructures, Nanoparticles, Carbon nanomaterials, Nanocrystalline materials, Nanocomposites, Nanodefects, Nanofabrication process, etc.
		Nanobioscience-related
	28040	Biomolecular devices, Molecular manipulation, Molecular imaging, Nanomeasurements, Nanosynthesis, Single molecule science, Nano-bio interfaces, Biomolecular array, Genome engineering, etc.
		Nano/micro-systems-related
	28050	MEMS, NEMS, BioMEMS, Nano/micro-fabrication, Nano/micro-optical devices,
	20030	Nano/micro-chemical systems, Nano/micro-biosystems, Nano/micro-organism systems, Nano/micro-mechanics, Nano/micro-sensors, etc.
Mediun	n-sized Sect	tion 29: Applied condensed matter physics and related fields
	Basic	Examples of related research content
	Section	Examples of related research content
		Applied physical properties-related
	29010	Magnetic materials, Superconductors, Dielectrics, Fine particles, Organic molecules, Liquid crystals, New functional materials, Organic molecules and bioelectronics, Spintronics, etc.
•		Thin film/surface and interfacial physical properties-related
	29020	Thin-film engineering, Thin-film electronics, Oxide electronics, Vacuum, Surface science, Analysis, Measurement, Nanoscopic technology, Surface and interfacial engineering, Advanced equipment, etc.
		Applied condensed matter physics-related
	29030	Elementary quantities, Standards, Units, Physical quantity measurements and detection,
	27030	Energy conversion, etc.
Mediun	n-sized Sect	tion 30: Applied physics and engineering and related fields
	Basic	Examples of related research content
	Section	· ·
	20010	
	30010	Crystal characterization, Plasma materials engineering, Plasma processing, Plasma engineering, etc.
	30010	Crystal engineering-related  Metals, Semiconductors, Ceramics, Amorphous materials, Crystal growth, Artificial structures, Crystal characterization, Plasma materials engineering, Plasma processing, Plasma engineering, etc.

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		Optical engineering and photon science-related
	30020	Optical materials, Optical elements, Optical properties, Optical information processing, Laser,
		Optical sensing, Optical recording, Opto-electronics, Nonlinear optics, Vision optics, etc.
Mediu	m-sized Sect	ion 31: Nuclear engineering, earth resources engineering, energy engineering, and related fields
	Basic Section	Examples of related research content
		Nuclear engineering-related
	31010	Reactor physics and safety design, Thermal-hydraulics and structure, Fuel material, Nuclear chemistry, Nuclear life cycle, Radiation safety, Radiation beam engineering, Plasma engineering for fusion reactor, Equipment and material engineering for fusion reactor, Nuclear social environment, etc.
		Earth resource engineering, Energy sciences-related
	31020	Earth resource sciences, Resource prospecting, Resource development, Resource cycle, Resource economy, Energy system, Environmental load evaluation, Renewable energy, Natural resource and energy technological policy, etc.
Mediu	m-sized Sect	ion 90: Biomedical engineering and related fields
	Basic Section	Examples of related research content
		Biomedical engineering-related
	90110	Medical imaging, Medical modeling, Biological simulation, Biometrics, Artificial organs, Tissue engineering, Biophysical properties, Biocontrol, Biomechanics, Nanobio systems, etc.
		Biomaterials-related
	90120	Biofunctional materials, Tissue engineering materials, Biocompatible materials, Nanobio materials, Drug delivery systems, Stimuli-sensitive materials, Genetic engineering material, etc.
		Medical systems-related
		Medical ultrasound system, Diagnostic imaging system, Laboratory diagnosis systems,
	90130	Minimally invasive treatment systems, Remote diagnosis and treatment systems,
		Organ preservation systems, Medical information systems, Computer-assisted surgery, Medical robot, etc.
		Medical technology assessment-related
	90140	Regulatory science, Safety evaluation, Clinical study, Medical technology ethics, Medical devices, etc.
		Medical assistive technology-related
	90150	Healthcare and rehabilitation engineering, Life assist technology, Care support technology,
	70130	Accessibility design, Universal design, Rehabilitation and nursing robot, Assist device for artificial internal organ, Rehabilitation devices, Nursing science and engineering, etc.
		Assist device for artificial internal organ, renabilitation devices, building science and engineering, etc.
Section	Е	
Mediu	m-sized Sect	ion 32: Physical chemistry, functional solid state chemistry, and related fields
	Basic Section	Examples of related research content
		Fundamental physical chemistry-related

# Broad

Basic Section	Examples of related research content
	Fundamental physical chemistry-related
32010	Theoretical chemistry, Molecular spectroscopy, Structural chemistry, Electronic state dynamics, Chemical reaction dynamics, Surface/interface, Cluster and nano materials, Bio-related physical chemistry, Liquid structure dynamics, Solid state properties, Molecular properties, etc.
	Functional solid state chemistry-related
32020	Optical properties, Electron spin, Molecular electronics and devices, Supermolecules, Liquid crystals, Crystals, Surface/interface, Nano particles, Colloids, Electrochemistry, Electronic properties, etc.

Medium-size	ed Sect	ion 33: Organic chemistry and related fields
1	asic ction	Examples of related research content
		Structural organic chemistry and physical organic chemistry-related
33	8010	Organic crystals, Molecular recognition, Supermolecules, Organic functional materials,
	.010	Extended p-electron system compounds, Heterocyclic chemistry, Organic element chemistry, Organic reaction mechanism, Organic photochemistry, Theoretical organic chemistry, etc.
		Synthetic organic chemistry-related  Selective reactions. A symmetric synthesis. Organ ametallic complex/sets/usis. Cets/ust design.
33	3020	Selective reactions, Asymmetric synthesis, Organometallic complex/catalysis, Catalyst design, Organocatalysts, Biocatalysis, Sustainable organic synthesis, Natural product synthesis, Process chemistry, Organic electrochemistry, etc.
Medium-size	ed Sect	ion 34: Inorganic/coordination chemistry, analytical chemistry, and related fields
	asic ction	Examples of related research content
		Inorganic/coordination chemistry-related
34	1010	Coordination chemistry, Organometallic chemistry, Inorganic solid-state chemistry, Bioinorganic chemistry, Solution chemistry, Clusters, Supramolecular complexes, Coordination polymers, Typical elements, Physical properties and functions, etc.
		Analytical chemistry-related
34	1020	Spectrometric analysis, Advanced measurements, Surface/interface analysis, Separation analysis, Analytical reagents, Radiochemical analysis, Electrochemical analysis, Bioanalysis, New analysis methods, etc.
		Green sustainable chemistry and environmental chemistry-related
3.1	1030	Green process, Green catalysts, Recycle, Environmental assessment, Environmentally conscious materials,
34	1030	Reduction of environmental load, Environmental restoration, Resource saving, Geochemistry, Environmental radioactivity, etc.
		Environmental radioactivity, etc.
Medium-size	ed Sect	ion 35: Polymers, organic materials, and related fields
	asic ction	Examples of related research content
		Polymer chemistry-related
35	5010	Polymer synthesis, Polymer reactions, Precision polymerization, Functional polymers,
		Self-assembled polymers, Chiral polymers, Bio-related polymers, Polymer properties, Polymer structures, Polymer thin film/surface, etc.
		Polymer materials-related
25	:020	Properties of polymer materials, Synthesis of polymer materials,
33	5020	Functional polymer materials, Liquid crystal polymers, Textiles, Rubbers,
		Gel, Biopolymers, Polymer composites, Polymer processing, etc.
		Organic functional materials-related
35	5030	Organic semiconductors, Liquid crystals, Optical materials, Device-related materials, Electrically conductive materials, Hybrid materials, Molecular functional materials,
		Organic hybrid materials, Materials for energy conversion, etc.
Medium-size	ed Sect	ion 36: Inorganic materials chemistry, energy-related chemistry, and related fields
Ва	asic	
	ction	Examples of related research content
		Inorganic compounds and inorganic materials chemistry-related
36	5010	Crystals, Amorphous, Ceramics, Semiconductors, Inorganic device-related materials, Low-dimensional compounds, Porous materials, Nanoparticles, Multicomponent compounds, Hybrid materials, etc.
		Energy-related chemistry
20	5020	Energy resources, Energy conversion materials, Energy carriers, Solar energy utilization,
36	5020	Material separation, Catalytic transformation, Battery and electrochemical materials,
		Energy-saving materials, Renewable energy, Unused energy, etc.

	Basic Section	Examples of related research content
	500000	Bio-related chemistry
	37010	Bioorganic chemistry, Bioinorganic chemistry, Biological reaction engineering, Biofunctional chemistry, Biofunctional materials, Biotechnology, etc.
		Chemistry and chemical methodology of biomolecules-related
	37020	Natural product chemistry, Biologically active compounds, Molecular mechanism of biological activities, Biofunctional molecules, Combinatorial chemistry, Metabolomic analysis, etc.
		Chemical biology-related
	37030	In vivo functional expression, Intracellular chemical reactions, Drug discovery science, Chemical library, Structure-activity relationship, Chemical probes, Biomolecular measurements, Molecular imaging, Proteomics, etc.
Section	F	
Mediu	m-sized Sect	tion 38: Agricultural chemistry and related fields
	Basic Section	Examples of related research content
		Plant nutrition and soil science-related
	38010	Plant metabolism and physiology, Nutritional elements in plants, Soil classification, Soil physical chemistry, Soil organisms, etc.
		Applied microbiology-related
	38020	Microbial genetics/breeding, Microbial function, Microbial metabolism and physiology, Microbial applications Control of microbes, Microbial ecology, Production of useful materials, etc.
		Applied biochemistry-related
	38030	Cellular biochemistry, Applied biochemistry, Structural biology, Regulation of bioactivity, Metabolism and physiology, Cellular function, Molecular function, Production of useful materials, etc.
		Bioorganic chemistry-related
	38040	Bioactive substances, Signal molecules, Natural products chemistry, Biosynthesis, Structure-activity relationship, Synthetic organic chemistry, Chemical biology, etc.
		Food sciences-related
	38050	Food function, Food chemistry, Nutritional chemistry, Food analysis, Food engineering, Food safety, Functional food, Nutritional epidemiology, Clinical nutrition, etc.
		Applied molecular and cellular biology-related
	38060	Molecular cell biology, Cellular bioengineering, Molecular engineering, Gene expression control, Cell-cell/intermolecular interactions, Cellular function, Production of useful materials, etc.
Mediu	m-sized Sect	tion 39: Agricultural and environmental biology and related fields
	Basic Section	Examples of related research content
		Science in plant genetics and breeding-related
	39010	Genetic resources, Breeding theories, Genomic breeding, Plants with novel traits, Quality components, Stress tolerance, Yielding ability, Reproduction and multiplication, Growth physiology, Development, etc.
		Crop production science-related
	39020	Field crops, Crop yield, Crop product quality, Crop morphology, Growth prediction, Crop physiology, Field management, Low-cost cultivation techniques, Environmentally friendly agriculture, Field ecosystem, etc
		Horticultural science-related
		Plant growth, flowering, and fruit development, Nursery plant propagation and production,
	39030	Crop production systems, Cultivation techniques, Protected horticulture, Controlled environment systems,

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		Plant protection science-related
	39040	Plant pathology, Clinical plant science, Agricultural insect pest, Natural enemy, Weed, Agricultural chemicals, Integrated pest management, etc.
		Insect science-related
	20050	Sericulture insect technology, Insect genetics, Insect pathology, Insect physiology and biochemistry,
	39050	Insect ecology, Chemical ecology, Systematics, Symbiosis and parasitism, Social insects,
		Medical entomology, etc.
		Conservation of biological resources-related
	****	Conservation biology, Biodiversity conservation, Conservation of phylogenetic diversity,
	39060	Conservation of genetic resources, Ecosystem conservation, Conservation of endemic species,
		Conservation of microorganisms, etc.
		Landscape science-related
	20070	Landscape architecture, Parks and open space planning, Landscape planning, Cultural landscape,
	39070	Nature conservation, Landscape ecology, Parks and open space management, Parks, Environmental greening,
		Participatory community design, etc.
Mediur	n-sized Sect	tion 40: Forestry and forest products science, applied aquatic science, and related fields
	Basic	Examples of related research content
	Section	
		Forest science-related
	40010	Forest ecology, Forest biodiversity, Forest genetics and breeding, Silviculture, Forest protection, Forest environments, Erosion control, Forest planning, Forest policy, etc.
		orest environments, Erosion control, Forest planning, Forest poncy, etc.
		Wood science-related
	40020	Wood structure, Wood property, Lignocellulose, Trace element, Fungus, Wood processing,
		Biomass-refinery, Wood based material, Wooden building, Forest products education, etc.
		Aquatic bioproduction science-related
	40030	Aquatic environment, Fisheries, Aquatic resource management, Aquatic organisms, Aquatic ecosystem,
	10050	Aquaculture, Fisheries engineering, Fishing community/fisheries policy, Fisheries economics/management/marketing, Fisheries education, etc.
		Aquatic life science-related
	40040	Aquatic nutrition, Aquatic pathology, Aquatic genetics/heredity/breeding, Aquatic physiology,
		Utilization of aquatic organisms and biomass, Aquatic biological chemistry, Aquatic biotechnology, Aquatic food sciences, etc.
		riquitie rood sciences, etc.
Mediur	n-sized Sect	tion 41: Agricultural economics and rural sociology, agricultural engineering, and related fields
	Basic	Examples of related research content
	Section	Examples of fetaled research content
		Agricultural and food economics-related
	41010	Food economy, Agricultural production economy, Policy for agriculture, forestry and fishery, Food system,
	11010	Food marketing, International agricultural development, Trade of agricultural commodities and livestock products, Rural resources and environment, etc.
		Rural sociology and agricultural structure-related
	41020	Farm organization, Farm management, Agricultural structure, Agricultural market, Agricultural history, Rural society
		Rural life, Agricultural cooperative, etc.
		Rural environmental engineering and planning-related
	41020	Irrigation and drainage, Reclamation and conservation of agricultural land, Rural planning, Rural environment,
	41030	Circulation of resources and energy, Disaster prevention in rural area, Stock management of agricultural
		infrastructures, Hydrodynamics and hydrology, Soil physics, Design and construction materials, etc.
		Agricultural environmental engineering and agricultural information engineering-related
	41040	Agricultural production facilities, Bioproduction machinery, Environmental control,
	41040	Agricultural meteorology and micrometeorology, Agricultural information, Greenhouse horticulture, Plant factory,
		Postharvest and supply chain, Nondestructive measurement, Remote sensing and geographic information system, etc.
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E			Environmental agriculture-related
ion [			Biomass, Environmental manipulation, Biodiversity, Environmental analysis, Ecosystem services,
(Broad Section F)		41050	Resources circulation system, Low-carbon societies, Life-cycle assessment, Environmental friendly agriculture, Watershed management, etc.
(Br	Mediun	n-sized Sect	tion 42: Veterinary medical science, animal science, and related fields
		Basic Section	Examples of related research content
	-		Animal production science-related
		42010	Breeding/genetics, Reproduction, Nutrition/feeding, Anatomy/physiology, Product, Environment, Behavior, Therapy, Grassland, Grazing, etc.
	-		Veterinary medical science-related
		42020	Basic veterinary science, Pathological veterinary science, Applied veterinary science, Clinical veterinary science, Animal nursing, Animal welfare, Wildlife, etc.
	•		Animal life science-related
		42030	Homeostasis, Cellular function, Biological defense, Integrated genetics, Development/differentiation, Biotechnology, etc.
	-		Laboratory animal science-related
		42040	Genetic engineering, Developmental engineering, Animal models of disease, Facility management, Laboratory animal welfare, Laboratory animal-related technology, Bioresource, etc.
Broad	Section	G	
	Mediun	n-sized Sect	tion 43:Biology at molecular to cellular levels, and related fields
		Basic Section	Examples of related research content
			Molecular biology-related
		43010	Chromosome function, Chromatin, Epigenetics, Genome maintenance, Genome transmission, Chromosome re-organization, Gene expression, Non-coding RNA, Regulation of protein function, Molecular genetics, etc.
	-		Structural biochemistry-related
		43020	Proteins, Nucleic acids, Lipids, Carbohydrates, Biological membrane, Molecular recognition, Denaturation, Three-dimensional structural analysis, Three-dimensional structural prediction, Molecular dynamics, etc.
	-		Functional biochemistry-related
		43030	Enzymes, Sugar chain, Bioenergy conversion, Biological trace elements, Physiologically active substances, Cell signaling, Membrane transport, Proteolysis, Molecular recognition, etc.
	-		Biophysics-related
		43040	Structure biology, Physical property of biomolecules, Biomembrane, Photobiology, Molecular motor, Biometrics, Bioimaging, Systems biology, Synthetic biology, Theoretical biology, etc.
	-		Genome biology-related
		43050	Genome organization, Genome function, Genome diversity, Molecular evolution of genome, Genome repair/maintenance, Trans-omics, Epigenome, Gene resource, Genome dynamics, etc.
			System genome science-related
		43060	Network analyses, Synthetic biology, Biological databases, Bioinformatics, Genome analysis technology, Genome biotechnology, etc.
	Mediun	n-sized Sect	tion 44:Biology at cellular to organismal levels, and related fields
		Basic Section	Examples of related research content
			Cell biology-related
		44010	Cytoskeleton, Proteolysis, Organelle dynamics, Nuclear structure and function, Extracellular matrix, Signal transduction, Cell cycle, Cell motility, Cell-cell interaction, Cellular genetics, etc.

		Developmental biology-related
	44020	Cell differentiation, Stem cells, Regeneration, Germ layer formation, Morphogenesis, Organogenesis,
		Fertilization, Germ cells, Regulation of gene expression, Developmental genetics, Evolution and development, etc.
		Plant molecular biology and physiology-related
	44030	Photosynthesis, Growth physiology, Plant development, Organelle, Cell wall, Responses to environment, Plant-microbe interaction, Metabolism, Plant molecular function, etc.
		Morphology and anatomical structure-related
	44040	Animal and plant morphology, Micro-organismal morphology, Molecular morphology, Microstructure, Tissue organization, Morphogenesis, Comparative endocrinology, Microscopic technology, Imaging, etc.
		Animal physiological chemistry, physiology and behavioral biology-related
	44050	Metabolic physiology, Neurophysiology, Neuroethology, Behavioral physiology, Animal physiological chemistry, Chronobiology, Comparative physiology, etc.
Mediu	m-sized Sect	ion 45: Biology at organismal to population levels and anthropology, and related fields
	Basic Section	Examples of related research content
		Genetics-related
	45010	Genetic mechanism, Molecular genetics, Cellular genetics, Population genetics, Evolutionary genetics, Developmental genetics, Behavioral genetics, Genetic diversity, etc.
		Evolutionary biology-related
	45020	General evolutionary biology, Molecular evolution, Phenotypic evolution, Evolution of developmental traits, Evolution of ecological traits, Evolution of behaviors, Experimental evolution, Evolutionary theory, Evolution of symbiosis, Phylogenetics, Speciation, etc.
		Biodiversity and systematics-related
	45030	Taxonomic characters, Taxon, Classification system, Biodiversity, Phylogenetics, Evolution, Natural history, Speciation, etc.
		Ecology and environment-related
	45040	Chemical ecology, Molecular ecology, Physiological ecology, Evolutionary ecology, Behavioral ecology, Population ecology, Community ecology, Ecosystem, Conservation ecology, Natural environment, etc.
		Physical anthropology-related
	45050	Molecular anthropology and genetics, Morphology and function, Bioarchaeology, Behavior and cognition, Ecology, Primates, Evolution, Development and ontogeny, Variation and diversity, etc.
		Applied anthropology-related
	45060	Physiological anthropology, Ergonomics, Forensic anthropology, Medical anthropology, Physiological polymorphisms, Environmental adaptability, Somatic and physiological function, Anthropometry and bioengineering, etc.
Mediu	m-sized Sect	ion 46: Neuroscience and related fields
	Basic Section	Examples of related research content
		Neuroscience-general-related
	46010	Neurochemistry, Neuron, Glia, Genome, Epigenetics, Neurobiology, Information processing, Synapse, Neurogenesis, etc.
		Anatomy and histopathology of nervous system-related
	46020	Neural development, Anatomy of nervous system, Neural network structure, Neuropathology, etc.
		Function of nervous system-related
	46030	Neurophysiology, Neuropharmacology, Neurotransmission, Neuroinformatics, Behavioral neuroscience, Neural system physiology, Cerebral blood flow, Autonomic nervous system, etc.

Medium-sized S	ection 47: Pharmaceutical sciences and related fields
Basic	Examples of related research content
Section	n -
	Pharmaceutical chemistry and drug development sciences-related
4701	Inorganic chemistry, Organic chemistry, Medicinal chemistry, Medicinal molecular design, Drug discovery, Bio-related materials, Chemical biology, etc.
	Pharmaceutical analytical chemistry and physicochemistry-related
4702	Environmental analysis, Bioanalysis, Physicochemistry, Biophysics, Structural biology, Radiochemistry, Bioimaging, Drug formulation design, Computer science, Information science, etc.
	Pharmaceutical hygiene and biochemistry-related
4703	Environmental hygiene, Healthful nutrition, Disease prevention, Toxicology, Drug metabolism, Host defense, Molecular biology, Cell biology, Biochemistry, etc.
	Pharmacology-related
4704	
	Environmental and natural pharmaceutical resources-related
4705	Environmental resource science, Natural products chemistry, Bioactive natural compounds, Medicinal resources Medicinal foods, Pharmaceutical microbiology, etc.
	Clinical pharmacy-related
4706	Pharmacokinetics, Medical informatics, Social pharmacy, Clinical pharmacy, Pharmaceutics, Regulatory science Education for the pharmacist, etc.
Medium-sized S	ection 48:Biomedical structure and function and related fields
Medium-sized S	ection 48: Biomedical structure and function and related fields
	ection 48:Biomedical structure and function and related fields  Examples of related research content
Basic	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related
Basic	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related
Basic Section	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related
Basic Section	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related
Basic Sectio	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related  Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related  General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.
Basic Section 4801	Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related  Pharmacology-related
Basic Sectio	Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related  Pharmacology-related
Basic Section 4801	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related  Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related  General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related  Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.
Basic Section 4801	Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related
4801 4802 4804	Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related
4801 4802 4804	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related Biofunctional molecular and medical biochemistry, Genome medical sciences, Human genetics, Disease model,  ection 49: Pathology, infection/immunology, and related fields
4801 4802 4804 4804 Medium-sized \$	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related  Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related Biofunctional molecular and medical biochemistry, Genome medical sciences, Human genetics, Disease model, ection 49: Pathology, infection/immunology, and related fields  Examples of related research content
Basic Section 4801 4802 4804 4804 Medium-sized S	ection 48: Biomedical structure and function and related fields  Examples of related research content  Anatomy-related  Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related Biofunctional molecular and medical biochemistry, Genome medical sciences, Human genetics, Disease model, ection 49: Pathology, infection/immunology, and related fields  Examples of related research content  Pathological biochemistry-related
Basic Section 4801 4802 4804 4804 Medium-sized S	Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related Biofunctional molecular and medical biochemistry, Genome medical sciences, Human genetics, Disease model, ection 49: Pathology, infection/immunology, and related fields  Examples of related research content  Pathological biochemistry-related
Basic Section 48014 48024 48044 Medium-sized Section S	Examples of related research content  Anatomy-related Macroscopic anatomy, Histology, Embryology, etc.  Physiology-related General physiology, Pathophysiology, Comparative physiology, Environmental physiology, etc.  Pharmacology-related Genomic pharmacology, Molecular and cellular pharmacology, Pathological pharmacology, Behavioral pharmacology, Pharmacology for drug discovery, Clinical pharmacology, etc.  Medical biochemistry-related Biofunctional molecular and medical biochemistry, Genome medical sciences, Human genetics, Disease model, ection 49: Pathology, infection/immunology, and related fields  Examples of related research content  Pathological biochemistry-related

	ıF		Providence and a local methods are suited at
H u			Experimental pathology-related
(Broad Section H)		49030	Disease models, Pathological regulation, Tissue regeneration, etc.
oad			Parasitology-related
(Br		49040	Parasite, Vector organism, Parasite pathogenicity, Epidemiology of parasites, Control of parasite infections, etc.
			Bacteriology-related
		49050	Bacterium, Fungus, Antimicrobial resistance, Bacterial pathogenicity, Epidemiology of bacteria, Control of bacterial infections, etc.
			Virology-related
		49060	Virus, Prion, Viral pathogenicity, Epidemiology of viruses, Control of viral infections, etc.
	  -		Immunology-related
		49070	Immune system, Immune response, Inflammation, Immune-related disorder, Immune regulation, etc.
Broad	Section 1		
	Medium		ion 50: Oncology and related fields
		Basic Section	Examples of related research content
			Tumor biology-related
		50010	Cancer and gene, Tumor development, Invasion, Metastasis, Cancer microenvironment, Cancer and signal transduction, Characteristics of cancer cells, etc.
			Tumor diagnostics and therapeutics-related
		50020	Genome analysis, Diagnostic markers, Molecule imaging, Chemotherapy, Nucleic acid therapy, Gene therapy, Immunotherapy, Molecular targeted therapy, Physical therapy, Radiation therapy, etc.
	Medium	-sized Sect	ion 51: Brain sciences and related fields
		Basic Section	Examples of related research content
			Basic brain sciences-related
		51010	Brain-machine interface, Model animal, Computational brain science, Brain information decoding, Control technologies, Brain imaging, Brain biometrics, etc.
			Cognitive and brain science-related
		51020	Social behavior, Communication, Emotion, Decision making, Consciousness, Learning, Neuroeconomics, Neuropsychology, etc.
			Pathophysiologic neuroscience-related
		51030	Clinical neuroscience, Dolorology, Sensory impairment, Movement disorder, Neurological disorder, Neurogenesis, Neuroimmunology, Cellular degeneration, Disease model, etc.
	Medium	-sized Sect	ion 52: General internal medicine and related fields
		Basic Section	Examples of related research content
			General internal medicine-related
		52010	Laboratory medicine, General practice, Geriatrics, Psychosomatic internal medicine, Oriental medicine, Palliative medicine, etc.
			Neurology-related
		52020	Neurology, Neurofunctional imaging, etc.

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		Psychiatry-related
	52030	Clinical psychiatry, Biological psychiatry, Forensic mental health, etc.
		Radiological sciences-related
	52040	Diagnostic radiology, Therapeutic radiology, Radiation biology, Radiological technology, etc.
		Embryonic medicine and pediatrics-related
	52050	Fetal medicine, Neonatal medicine, Pediatrics, etc.
Mediu	m-sized Sect	tion 53: Organ-based internal medicine and related fields
	Basic Section	Examples of related research content
		Gastroenterology-related
	53010	Upper digestive tract, Lower digestive tract, Liver, Biliary tract, Pancreas, etc.
		Cardiology-related
	53020	Ischemic heart disease, Valvular heart disease, Arrhythmia, Cardiomyopathy, Heart failure, Peripheral arterial disease, Arteriosclerosis, Hypertension, etc.
		Respiratory medicine-related
	53030	Respiratory medicine, Asthma, Diffusive lung disease, COPD, Lung cancer, Pulmonary hypertension, etc.
		Nephrology-related
	53040	Acute renal failure, Chronic kidney disease, Diabetic nephropathy, Hypertension, Aqueous electrolyte metabolism, Artificial dialysis, etc.
	53050	Dermatology-related Dermatology, Cutaneous immune disease, Cutaneous infection, Cutaneous tumor, etc.
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Mediui	m-sized Sect	tion 54: Internal medicine of the bio-information integration and related fields
	Basic Section	Examples of related research content
	54010	Hematology and medical oncology-related Hematological oncology, Hematological immunology, Anemia, Thrombosis and hemostasis, Chemotherapy, etc.
		Connective tissue disease and allergy-related
	54020	Connective tissue disease, Allergy, Clinical immunology, Inflammation, etc.
		Infectious disease medicine-related
	54030	Infection diagnostics, Infection therapeutics, Host defense, International infection science, etc.
		Metabolism and endocrinology-related
	54040	Energy balance, Glucose metabolism, Lipid metabolism, Purine metabolism, Bone metabolism, Electrolyte balance, Endocrinology, Neuroendocrinology, Reproductive endocrinology, etc.
Mediu	m-sized Sect	tion 55: Surgery of the organs maintaining homeostasis and related fields
	Basic Section	Examples of related research content
		General surgery and pediatric surgery-related
	55010	Surgical basic principles, Breast surgery, Endocrine surgery, Pediatric surgery, Transplant surgery, Artificial organs science, Regeneration, Operation support, etc.
•	-	

	Digestive surgery-related
55020	Upper gastrointestinal surgery, Lower gastrointestinal surgery, Hepatic surgery, Biliary surgery,
33020	Pancreatic surgery, etc.
	Cardiovascular surgery-related
55030	Coronary artery surgery, Heart valve surgery, Surgery for myocardial disease, Aortic surgery, Vascular surgery, Congenital heart surgery, etc.
	Respiratory surgery-related
55040	Lung surgery, Mediastinal surgery, Chest wall surgery, Respiratory tract surgery, etc.
	Anesthesiology-related
55050	Anesthesiology, Perioperative management, Pain management, Resuscitology, Palliative medicine, etc.
	Emergency medicine-related
55060	Intensive care medicine, Emergency resuscitation science, Trauma surgery, Disaster medicine, Disaster medical care, etc.
m-sized Sect	tion 56: Surgery related to the biological and sensory functions and related fields
Basic Section	Examples of related research content
	Neurosurgery-related
56010	Neurosurgery, Spine and spinal cord diseases, etc.
	Orthopedics-related
56020	Orthopedics, Rehabilitation medicine, Sports medicine, etc.
	Urology-related
56030	Urology, Male genitalia science, etc.
	Obstetrics and gynecology-related
56040	Obstetrics, Reproductive endocrinology, Gynecologic oncology, Female health care medicine, etc.
	Otorhinolaryngology-related
56050	Otorhinolaryngology, Head and neck surgery, etc.
	Ophthalmology-related
56060	Ophthalmology, Ophthalmological optics, etc.
	Plastic and reconstructive surgery-related
56070	Plastic surgery, Reconstructive surgery, Aesthetic plastic surgery, etc.
m-sized Sect	tion 57: Oral science and related fields
Basic Section	Examples of related research content
	Oral biological science-related
57010	Oral anatomy, Oral histology and embryology, Oral physiology, Oral biochemistry, Pharmacology for hard tissues, etc.
	Oral pathobiological science-related
	Oral infectious diseases, Oral pathology, Oral experimental oncology, Immunity and inflammation,

		Conservative dentistry-related
	57030	Operative dentistry, Endodontology, Periodontology, etc.
•		Regenerative dentistry and dental engineering-related
	57040	Regenerative dentistry, Biomaterial science, Dental materials science, Oral and maxillofacial prosthetics, Oral implantology, etc.
=		Prosthodontics-related
	57050	Prosthodontics, Oral rehabilitation, Gerodontology, etc.
ŀ		Surgical dentistry-related
	57060	Oral and maxillofacial surgery, Oral maxillofacial reconstructive surgery, Dental anesthesiology, Psychosomatic medicine dentistry, Dental radiology, etc.
-		Developmental dentistry-related
	57070	Orthodontics, Pediatric dentistry, etc.
=		Social dentistry-related
	57080	Dental hygiene, Preventive dentistry, Oral health administration and management, Dental education, Forensic odontology, etc.
Mediun	n-sized Sect	tion 58: Society medicine, nursing, and related fields
	Basic Section	Examples of related research content
		Medical management and medical sociology-related
	58010	Medical management, Medical social science, Ethics for medical science, Ethics for medical care, Biomedical education, History of medical science, Health policy and economics, Clinical trials, Health and medical services administration, Disaster medical science, etc.
ŀ		Hygiene and public health-related: including laboratory approach
	58020	Hygiene, Public health, Epidemiology, Global health, etc.
=		Hygiene and public health-related: excluding laboratory approach
	58030	Hygiene, Public health, Epidemiology, Global health, etc.
ŀ		Forensics medicine-related
	58040	Forensic medicine, Forensic pathology, Forensic toxicology, Forensic genetics, Suicide, Abuse, Clinical forensic medicine, Sudden death, etc.
Ī		Fundamental of nursing-related
	58050	Fundamental of nursing, Nursing education, Nursing administration, etc.
-		Clinical nursing-related
	58060	Critical care and emergency nursing, Perioperative nursing, Nursing of chronic illness, Oncology nursing, Psychiatric nursing, Palliative care nursing, etc.
ŀ		Lifelong developmental nursing-related
	58070	Women's health nursing, Maternal nursing, Midwifery, Family health nursing, Child health nursing, School nursing, etc.
}		Gerontological nursing and community health nursing-related
	58080	Gerontological nursing, Community health nursing, Public health nursing, Disaster nursing, etc.
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	Basic	Examples of related research content
	Section	Debebilitation exists and make d
	50010	Rehabilitation science-related  Rehabilitation medicine, Rehabilitation nursing, Rehabilitation medical care, Physicotherapeutics,
	59010	Occupational therapy, Assistive technology, Speech and language therapy, etc.
		Sports sciences-related
	59020	Sports physiology, Sports biochemistry, Sports medicine, Sports sociology, Sports management, Sports psychology, Sports education, Training science, Sports biomechanics, Adapted sports science, Doping, e
		Physical education, and physical and health education-related
	59030	Growth developmental science, Physical and health education, Physical education in school, Educational physiology, Physical systems science, Higher brain function science, Martial arts theory, Outdoor education, etc.
		Nutrition science and health science-related
	59040	Nutritional physiology, Nutritional biochemistry, Nutritional education, Clinical nutrition, Functional food, Lifestyle-related disease, Health promotion, Aging, etc.
Mediu	m-sized Sect	ion 90: Biomedical engineering and related fields
	Basic Section	Examples of related research content
		Biomedical engineering-related
	90110	Medical imaging, Medical modeling, Biological simulation, Biometrics, Artificial organs, Tissue engineering, Biophysical properties, Biocontrol, Biomechanics, Nanobio systems, etc.
		Biomaterials-related
	90120	Biofunctional materials, Tissue engineering materials, Biocompatible materials, Nanobio materials, Drug delivery systems, Stimuli-sensitive materials, Genetic engineering material, etc.
		Medical systems-related
	90130	Medical ultrasound system, Diagnostic imaging system, Laboratory diagnosis systems, Minimally invasive treatment systems, Remote diagnosis and treatment systems, Organ preservation systems, Medical information systems, Computer-assisted surgery, Medical robot, etc.
		Medical technology assessment-related
	90140	Regulatory science, Safety evaluation, Clinical study, Medical technology ethics, Medical devices, etc.
		Medical assistive technology-related
	90150	Healthcare and rehabilitation engineering, Life assist technology, Care support technology, Accessibility design Universal design, Rehabilitation and nursing robot, Assist device for artificial internal organ, Rehabilitation dev Nursing science and engineering, etc.
Section	J	
Mediu	m-sized Sect	ion 60: Information science, computer engineering, and related fields
	Basic Section	Examples of related research content
		Theory of informatics-related
	60010	Discrete structure, Mathematical logic, Theory of computation, Mathematical theory of programs, Computational complexity theory, Algorithm theory, Information theory, Coding theory, Theory of cryptograph Learning theory, etc.

Optimization theory, Mathematical systems theory, System control theory, System analysis, System methodology,

System modeling, System simulation, Combinatorial optimization, Queueing theory, Mathematical finance, etc.

Mathematical informatics-related

60020

	Statistical science-related
60030	Statistics, Data science, Modeling, Statistical inference, Multivariate analysis, Time series analysis, Statistical quality control, Applied statistics, etc.
	Computer system-related
60040	Computer architecture, Circuit and system, LSI design, LSI testing, Reconfigurable system, Dependable architecture, Low power technology, Hardware/software codesign, Embedded system, etc.
	Software-related
60050	Programming language, Programming methodology, Operating system, Parallel and distributed computing, Software engineering, Virtualization technology, Cloud computing, Software dependability, Software security, etc.
	Information network-related
60060	Network architecture, Network protocol, Internet, Mobile network, Pervasive computing, Sensor network, IoT, Traffic engineering, Network management, Service platform technology, etc.
	Information security-related
60070	Cryptography, Tamper resistance technology, Authentication, Biometrics, Access control, Malware countermeasure, Countermeasures against denial-of-service attacks, Privacy protection, Digital forensics, Security evaluation and authorization, etc.
	Database-related
60080	Data model, Database system, Multimedia database, Information retrieval, Content management, Metadata, Big data, Geographic information system, etc.
	High performance computing-related
60090	Parallel processing, Distributed processing, Cloud computing, Numerical analysis, Visualization, Computer graphics, High performance computing application, etc.
	Computational science-related
60100	Mathematical engineering, Computational mechanics, Numerical simulation, Multi-scale modeling, Large-scale computing, Massively parallel computing, Numerical computing methods, Advanced algorithms, etc.

# Medium-sized Section 61: Human informatics and related fields

Basic Section	Examples of related research content
	Perceptual information processing-related
61010	Pattern recognition, Image processing, Computer vision, Visual media processing, Acoustic media processing, Media editing, Media database, Sensing, Sensor fusion, etc.
	Human interface and interaction-related
61020	Human interface, Multi-modal interface, Human-computer interaction, Computer supported cooperative work, Virtual reality, Augmented reality, Realistic communication, Wearable device, Usability, Ergonomics, etc.
	Intelligent informatics-related
61030	Search, Inference, Machine learning, Knowledge acquisition, Intelligent system, Intelligent information processing, Natural language processing, Data mining, Ontology, Agent system, etc.
	Soft computing-related
61040	Neural network, Evolutionary computation, Fuzzy theory, Chaos, Complex systems, Probabilistic information processing, etc.
	Intelligent robotics-related
61050	Intelligent robot, Behavior and environment recognition, Planning, Sensory behavior system, Autonomous system, Digital human, Real world information processing, Physical agents, Intelligent space, etc.
	Kansei informatics-related
61060	Kansei design, Kansei cognitive science, Kansei psychology, Kansei robotics, Kansei measurement evaluation, Kansei interface, Kansei physiology, Kansei material science, Kansei pedagogy, Kansei brain science, etc.
	Design-related
90010	Information design, Environmental design, Industrial design, Spatial design, Design history, Theory of design, Design standard, Design support, Evaluation of design, Design education, etc.

<u>.</u>			Cognitive science-related
tion		90030	Cognitive science in general, Cognitive models, Kansei, Human factors, Cognitive and brain science,
) Sec			Comparative cognition, Cognitive linguistics, Cognitive engineering, etc.
(Broad Section J)	Medium	n-sized Sect	ion 62: Applied informatics and related fields
(B	TVICUIUII		Ion 02.73ppined informatics and related fields
		Basic Section	Examples of related research content
			Life, health and medical informatics-related
		62010	Bioinformatics, Life informatics, Biological information, Neuroinformatics, Neural information processing, Molecular computing, DNA computing, Medical information, Health information, Medical image, etc.
	•		Web informatics and service informatics-related
		62020	Web system, Social web, Semantic web, Web mining, Social network analysis, Service engineering, Educational service, Medical service, Welfare service, Social service, Information culture, etc.
	-		Learning support system-related
		62030	Media literacy, Learning media, Social media, Learning content, Learning management, Learning support, Remote learning, e-Learning, etc.
	•		Entertainment and game informatics-related
		62040	Music information processing, 3D content, Animation, Game programming, Network entertainment, Media art, Digital museum, Experience design, etc.
			Library and information science, humanistic and social informatics-related
		90020	Library science, Information services, Information organizing, Information retrieval, Information media, Bibliometrics, Information resources, Information ethics, Digital humanities, Social Informatics, Digital archives, etc.
Broad	Section	K	
Diouu			
	Mediun	n-sized Sect	ion 63: Environmental analyses and evaluation and related fields
		Basic Section	Examples of related research content
	•		Environmental dynamic analysis-related
		63010	Global warming, Environmental change, Water and material cycle, Polar regions, Chemical oceanography, Biological oceanography, Environmental measurements, Environmental model, Environmental information, Remote sensing, etc.
	-		Radiation influence-related
		63020	Radiation, Measurement, Control, Repair, Biological effects, Risk, etc.
	•		Chemical substance influence on environment-related
		63030	Toxicology, Toxic substance to human, Trace chemical substance, Endocrine disruptor, Repair, etc.
	-		Environmental impact assessment-related
		63040	Atmosphere, Hydrosphere, Terrestrial impact, Impact assessment on human health, Social and economic impacts, Impact assessment on the future generation, Environmental impact assessment, Assessment methods, Monitoring, Simulation, etc.
	Mediun	n-sized Sect	ion 64: Environmental conservation measure and related fields
		Basic Section	Examples of related research content
			Environmental load and risk assessment-related
		64010	Environmental analysis, Environmental load analysis, Environmental monitoring,
		0.1010	Dynamics of environmental pollution, Environmental modelling, Evaluation of contamination, Exposure assessment, Toxicity evaluation, Environmental assessment, Chemical substance management, etc.

(Broad Section K)		64020	Environmental load reduction and remediation-related
			Removal of contamination, Treatment of waste material, Control of contamination source, Disposal of waste material,
			Environmental load reduction, Remediation measure of contamination, Noise and vibration reduction,
			Countermeasure of ground settlement, Bioremediation, Radioactive decontamination, etc.
		64030	Environmental materials and recycle technology-related
			Recycle materials, Valuable materials recovery, Separation, refining and purification, Environment-conscious design, Recycle chemistry, Green production, Zero emission, Resource circulation, Renewable energy, Biomass utilization, etc.
		64040	Social-ecological systems-related
			Biodiversity, Conservation biology, Ecosystem services, Natural capital, Impact analysis on ecosystem,
			Ecosystem management, Ecosystem restoration, Ecological engineering, Regional environmental planning, Impact of climate change, etc.
		64050	Sound material-cycle social systems-related
			Sound material-cycle systems, Material and energy budget analysis, Low carbon society, Unused energy,
			Regional revitalization, Water use system, Industrial symbiosis, Life cycle assessment (LCA),
			Integrated environmental management, 3R (reduction, reuse, recycle) social systems, etc.
		64060	Environmental policy and social systems-related
			Environmental philosophy and ethics, Environmental laws, Environmental economics, Environmental information,
			Environmental education, Environmental social activities, Environmental management and governance,
			Consensus forming, Environmental safety and security, Social and public system, Sustainable development, etc.

# **Inquiries**

# 1. Inquiries about the invitation of applications should be directed to the following divisions through the research institution.

#### (1) For inquiries concerning the invitation of applications:

Research Division III, Research Program Department, Japan Society for the Promotion of Science

Telephone: 03-3263-4927

\* Available every day except Saturdays, Sundays, National Holidays, the New Year Holidays (from December 29 to January 3), and the Anniversary of the Foundation of JSPS (September 21).

# (2) For inquiries concerning the use of the KAKENHI electronic application system:

Call center:

Telephone: 0120-556-739 (toll-free)

\* Available from 9:30 to 17:30 every day except Saturdays, Sundays, National Holidays and the New Year Holidays (from December 29 to January 3)

#### The following phone numbers are also available:

Institutional Research and Information Division, Policy Planning Department, JSPS Telephone: 03-3263-1017, 1022, 1107, 1024

# (3) For inquiries concerning the use of the Cross-ministerial Research and Development management system (e-Rad):

e-Rad help desk:

Telephone: 0570-066-877 ("Navi" Dial)

- \* Available from 9:00 to 18:00 except Saturdays, Sundays, National Holidays and the New Year Holidays (from December 29 to January 3)
- \* The following phone numbers are also available: 03-6631-0622

#### < Important points >

① How to operate e-Rad

Manuals on how to operate e-Rad can be referred or downloaded from the portal site (URL: https://www.e-rad.go.jp). Please agree to the terms of service and apply.

② Time period when e-Rad is available

(Monday to Sunday) 00:00 - 24:00 (in operation 24 hours a day, 365 days a year)

However even during the above-mentioned time period, the operation of e-Rad may be disrupted or suspended, when maintenance and inspection is being carried out. If the operation is scheduled to be disrupted or suspended, this will be announced beforehand on the portal site.

# (4) For matters related to the "Self-Assessment Checklist on the Improvement of the System", based on the "Guidelines on the Management and Audit of Public Research Funds at Research Institutions (Implementation Standards)":

Competitive Research Funding Administration, Research Environment Division, Science and Technology Policy Bureau, MEXT

Telephone: 03-5253-4111 (ext. 3866, 3827)

#### (5) For matters related to the "Checklist pertaining to the Current Status"

#### based on the "Guidelines for Responding to Misconduct in Research":

Office for Research Integrity Promotion, Research Environment Division, Science and Technology Policy Bureau, MEXT

Telephone: 03-6734-3874

#### (6) For matters related to "the National Bioscience Database":

National Bioscience Database Center, Japan Science and Technology Agency (JST)

Telephone: 03-5214-8491

#### (7) For matters related to the "Inter-University Bio-Backup Project":

Executive Office, IBBP Center, Inter-University Research Institute Corporation National

Institutes of Natural Sciences Telephone: 0564-59-5930, 5931

#### (8) For matters related to the "National BioResource Project":

Division of Biobank, Department of Research Infrastructure, National Research and

Development Agency, Japan Agency for Medical Research and Development

Telephone: 03-6870-2228

# (9) For matters related to the "researchmap":

Service Support Center (in charge of the researchmap), Department of Information Infrastructure, National Institute of Advanced Industrial Science and Technology (JST)

Web inquiry form: https://researchmap.jp/public/inquiry/

#### (10) For matters related to the "Security Export Control Policy":

Security Export Control Administration Division, Trade Control Department, Trade and

Economic Cooperation Bureau, Ministry of Economy, Trade and Industry

Telephone: 03-3501-2800 FAX: 03-3501-0996

#### 2. The Application forms can be downloaded from the following website.

JSPS's website on Grants-in-Aid for Scientific Research

URL: <a href="https://www.jsps.go.jp/j-grantsinaid/35\_kokusai/04\_kyoudoub/download.html">https://www.jsps.go.jp/j-grantsinaid/35\_kokusai/04\_kyoudoub/download.html</a>

[Japanese]

URL: https://www.jsps.go.jp/english/e-grants/index.html

[English]