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

FY2017

Specially Promoted Research,
Scientific Research (S/A/B/C),
Challenging Research（Pioneering/Exploratory）,
and
Grant-in-Aid for Young Scientists (A/B)

September 1, 2016

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

Introduction

The current round of call for proposals lists the necessary procedures and other matters for the Details of the Call for Proposals or Application of the Grants-in-Aid for Scientific Research-KAKENHI- for FY2017 “Specially Promoted Research, Scientific Research (S/A/B/C), Challenging Research（Pioneering/Exploratory）, Grant-in-Aid for Young Scientists (A/B)”

It consists of:

- Ⅰ **Outline of the Grants-in-Aid for Scientific Research-KAKENHI-**
- Ⅱ **Details of the Call for Proposals**
- Ⅲ **Instructions & Procedures for those Intending to Apply**
- Ⅳ **Instructions & Procedures for those Who Have Already Been Accepted**
- Ⅴ **Instructions & Procedures for Staff of the Research Institution**
- Ⅵ **Related Important Points etc.**

Among these, are listed in the “Ⅱ Details of the Call for Proposals”: Eligible Candidates for the Research Categories for which a Call for Proposals is Organized; Total budget provided and Research period and other matters; and Schedule from Application to Receipt of Funding and other issues.

In addition, in “Ⅲ Instructions & Procedures for those Intending to Apply”, “Ⅳ Instructions & Procedures for those Who Have Already Been Accepted” and “Ⅴ Instructions & Procedures for Staff of the Research Institution” are listed: “Conditions for Applying”, “Necessary Procedures”, and other matters, for those who are eligible to apply. Individuals to whom it may concern are requested to make sure that they verify the relevant parts of the text.

The current round of call for proposals opens before the finalization of the budget for FY2017 in order to enable researchers to proceed with their preparations for the screening early, so that they can start their research as soon as possible.
Therefore, please be aware in advance that, depending on the situation regarding the overall budget, details like resources to be allocated and other matters may be subject to change at a later stage.

Grants-in-Aid for Scientific Research consist of a competitive funding system intended to provide financial support for creative and pioneering research conducted by individual researchers. Therefore, the content of the Proposal for Grant-in-Aid made by applying researchers must be must original.

In preparing Proposal for Grant-in-Aid, plagiarism and/or misappropriation of the research contents of others are not permitted, and applicants must comply with research ethics.

Moreover, the major changes for FY2017 are as follows.

＜The major changes for FY2017＞

①Challenging Exploratory Research has been reviewed and a new category "Challenging Research (Pioneering/Exploratory)" has been established. (No new invitation for applications is conducted for Challenging Exploratory Research.) (Please refer to p.21-22 and p.100-101).

In order to support research based on a research project of one or multiple researchers that has the aim of significantly reforming or changing the scientific system or direction as it has been understood up until now and has rapid growth potential, "Challenging Exploratory Research" has been revised and a new category "Challenging Research (Pioneering/Exploratory)" has been established.

* (Exploratory) covers research projects that have a strong exploratory nature, or are in their formative stages.

*While there are cases in which it is possible to do duplicate applications in other research categories, the research project in the application has to differ from that in the other research categories. In particular, this research category has different screening criteria from the Scientific Research etc. categories, so please pay attention to the fact that the target is challenging research projects such as those above.

② Three areas have been newly established in the screening division of "Generative Research Field" for Scientific Research (B) and Scientific Research (C) (Please refer to p.20-21 and p.94-99)

"Generative Research Field" is a newly established screening division in FY 2014, separate from the existing "List of Categories, Areas, Disciplines and Research Fields" (including the Separate Appendix Table) that provides a classification for the

desired screening areas. With a focus on promoting efforts that nurture new academic developments, every year, new areas of research are proposed within the Generative Research Field by the Research Center for Science Systems of JSPS based on the most recent scientific trends, etc., and approved by the Research Grant Screening Section of the Academic Deliberation Council for Science and Technology, at the Ministry of Education, Culture, Sports, Science and Technology (MEXT). These areas are open to research proposals where screening would be considered difficult under the existing research fields and for applicants who prefer their proposals to be screened from a broader perspective related to the Generative Research Field.

For FY2017, the following three areas have been newly established.

・Orality and society
・Agricultural Resources for the Next Generation
・The Information Society and Trust

③The appended list of keywords to the **"**List of Categories, Areas, Disciplines and Research Fields" has been partially revised.(Please refer to p.70)

As a result of deliberation in the Research Grant Screening Section of MEXT's Academic Deliberation Council for Science and Technology, the keywords for the Research Field "Education on school subjects and activities" have been partially revised.

④There has been some change in the desired screening areas for Scientific Research (A) and Scientific Research (B) of the division, "Overseas Academic Research"(please refer to p.51-52)

Desirable screening areas were revised and "Chemistry" and "Environmental Science A" were changed into the same field within Science and Engineering. In addition, the application contents of "Humanities D" were clarified.

⑤Concerning submission of the" Checklist Pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research" (please refer to p. 111-112)

From FY 2017 onwards, research institutes applying for KAKEN will be required to submit a "Checklist Pertaining to the Current Status" based on the relevant guidelines. Please note that without submission, applications from researchers belonging to the said research institutes cannot be accepted.

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References

The application forms (Proposal for Grant-in-Aid) and other application materials are contained in separate files. Please refer to “Supplementary Volume ‘Application Procedures for Grants-in-Aid for Scientific Research - KAKENHI - for FY2017 (Specially Promoted Research, Scientific Research (S/A/B/C), Challenging Research(Pioneering/Exploratory), Grant-in-Aid for Young Scientists (A/B)) (Application Forms and Data Entry)”.

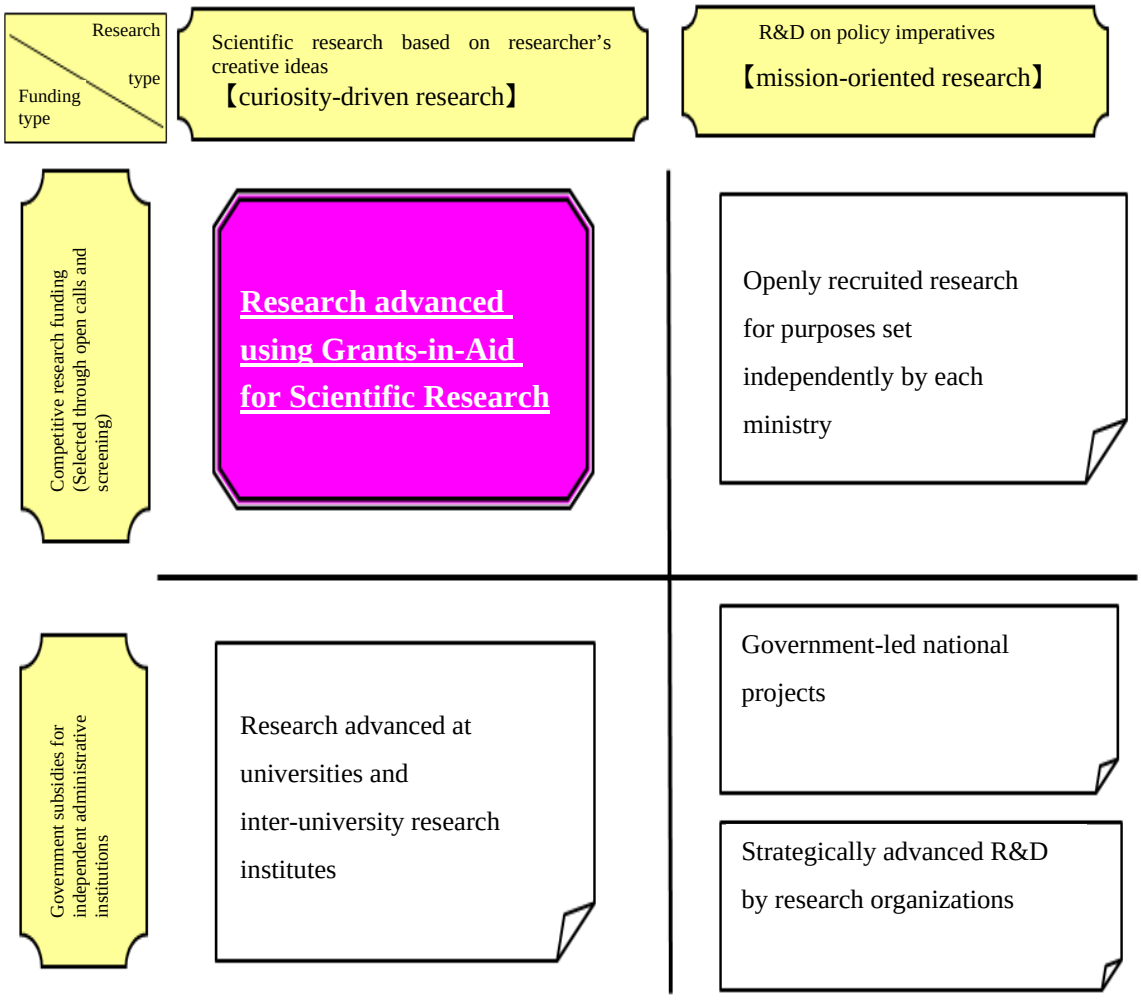
* The application forms (Proposal for Grant-in-Aid) and other application materials can be downloaded from the JSPS website (cf. URL below).
(URL) http://www.jsps.go.jp/j-grantsinaid/index.html

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 are competitive funds that are intended to significantly develop all scientific research (research based on the free ideas of the researcher), from basic to applied research in all fields, ranging from the humanities, the social sciences and the 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 using a peer-review screening process (screening by multiple researchers whose field of specialization is close to that of the applicant).

The position of "KAKENHI" in the policy on the promotion of science, technology and scientific research in Japan



2. Research Categories

Depending on the content and the scale of the research, different research categories have been established.

❖ As of September 2016

Research categories, etc.	Purposes and description of each research category
Grants-in-Aid for Scientific Research	
Grant-in-Aid for Specially Promoted Research	Highly regarded research in the international arena conducted by one researcher or a relatively small group of researchers and is likely to yield highly acclaimed research achievements. (The period is three to five years. The upper limit of the total budget provided is generally set around 500 million yen per research project, though no exact budget range has been established.)
Grant-in-Aid for Scientific Research on Innovative Areas	(Research in a proposed research area) New research areas proposed by a group of diverse researchers which, through efforts for collective research, scholarly training, shared use of equipment, etc., will develop and lead to the upgrading and enhancement of scientific research in Japan. (The period is five years. In principle, the budget is set at around 10 million to 300 million yen per fiscal year per field.)
Grant-in-Aid for Scientific Research	(S): Creative/pioneering research conducted by one researcher or a relatively small group of researchers (The period is five years. The budget ranges from 50 to around 200 million yen per project.) (A), (B), (C): Creative/pioneering research done conducted by one researcher or jointly by multiple researchers (The period is three to five years.) Classification of A, B and C depends on the total budget (A) From 20 million to 50 million yen (B) From 5 million yen to 20 million yen (C) 5 million yen or less
Grant-in-Aid for Challenging Research（Pioneering/Exploratory）	(Pioneering) (Exploratory) Research conducted by one or more researchers, that has the aim of significantly reforming or changing the scientific system or direction and has rapid growth potential. Further, (Exploratory) covers research projects that have a strong exploratory nature, or are in their beginning stages. (Pioneering) 3-6 years from 5 million to 20 million yen (Exploratory) 2-3 years 5 million or less
Grant-in-Aid for Young Scientists	(A), (B) : Research conducted by one researcher aged 39 or less (The period is two to four years.) Classification of A and B depend on the total budget (A) from 5 million yen to 30 million yen (B) 5 million yen or less
Grant-in-Aid for Research Activity Start-up	Research conducted by one researcher who has just been employed by his/her research institution by one researcher who has returned from his/her childcare or other kinds of leave (The period is up to two years. The budget is up to 1.5 million per fiscal year.)
Grant-in-Aid for Encouragement of Scientists	Research conducted by one person who is an employee of an educational/research institution, a company employee, or others (The period is up to one year. The budget is above 100,000 and up to 1 million yen per project.)
Grant-in-Aid for Special Purposes	Funding of urgent and important research projects.
Grant-in-Aid for Publication of Scientific Research Results	
Publication of Research Results	Funding for the publication and/or international dissemination of research achievements of high academic values made by academic associations and other organizations
Enhancement of International Dissemination of Information	Funding for efforts of academic societies and other scholarly organizations to further enhance international dissemination of information for the purpose of international academic exchange.
Scientific Literature	Funding for academic publications authored by an individual or a group of researchers to publish academic research achievements
Databases	Funding for databases created by an individual or a group of researchers for public use
Grant-in-Aid for JSPS Fellows	Funding for research conducted by JSPS Fellows (including Foreign JSPS Fellows) (for a period of up to three years)

Fund for the Promotion of Joint International Research		
	Fostering Joint International Research	For Joint International Research that a researcher selected by KAKENHI performs at a foreign university or research facility, covering a period from about 6 months to one year (up to 12 million yen)
	International Group	Support for International Activities within Scientific Research on Innovative Areas (Set period of the Area, up to 15 million yen per year)
	Returning Researcher Development Research	Research that is expected to take place when Japanese researchers who are currently residing abroad, return to Japan (period up to 3 years, up to 50 million yen)
Generative Research Field		Based on the latest academic trends, Generative Research Fields are established in Scientific Research (B/C). (The research period that can be applied for differs depending on the year of application.)

*No new invitation for applications is conducted for "Challenging Exploratory Research"

3. The Relationship between MEXT and JSPS

The Ministry of Education (currently, the Ministry of Education, Culture, Sports, Science and Technology) publicly recruited, screened applications and delivered grants in all of the research categories up to FY1998. From FY1999 on, these tasks were transferred to the Japan Society for the Promotion of Science (JSPS). The call for proposals, screening and funding are currently being conducted as indicated below.

❖ As of September 2016

Research category	**Call for proposals, screening** Main body in the preparation of the procedures for lodging applications and the location where the applications should be submitted.	**Delivery of grants** Main body handling informal decisions to grant the funding, and notices of the decision, and the location where the application forms for grants and the various other necessary documents should be submitted
Scientific Research on Innovative Areas, Grant-in-Aid for Special Purposes Fund for the Promotion of Joint International Research （International Group)	MEXT	JSPS
Specially Promoted Research, Scientific Research, Challenging Exploratory Research ,Challenging Research(*), Grant-in-Aid for Young Scientists, Grant-in-Aid for Research Activity Start-up, Encouragement of Scientists, Grant-in-Aid for Publication of Scientific Research Results, Grant-in-Aid for JSPS Fellows, Fund for the Promotion of Joint International Research(Fostering Joint International Research, Returning Researcher Development Research), Generative Research Field	JSPS	JSPS

* "Challenging Exploratory Research" has been reviewed and from FY 2017 onwards a new category "Challenging Research (Pioneering/Exploratory)" has been established.

4. Rules Relating to KAKENHI

KAKENHI (Series of Single-year Grants) are governed by the Law on Optimizing Implementation of Budgets Relating to Subsidies (Law No. 179, 1955), Procedures on the Handling of Grants-in-Aid for Scientific Research (Announcement of the MEXT), Procedures on the Handling of JSPS Grants-in-Aid for Scientific Research (KAKENHI (Series of Single-year Grants)) (Regulations No. 17, 2003), and Others.

The KAKENHI (Multi-year Fund) are governed by the "Basic Policy on the Management of the KAKENHI (Multi-year Fund) （Adopted by the Ministry of Education, Culture, Sports, Science and Technology （MEXT）)", Procedures on the Handling of JSPS Grants-in-Aid for Scientific Research (KAKENHI (Multi-year Fund)) (Rule No. 19, 2011) and others.

(1) Three types of rules for KAKENHI

There are three types of rules for KAKENHI, as follows:

1) Application rules: rules concerning the applications
2) Assessment rules: rules concerning the preliminary assessment (screening), the interim assessment, the ex-post assessment, and the research project progress assessment
3) Utilization rules: rules concerning the use of KAKENHI

Moreover, these three sets of rules apply as follows.

【Grants-in-Aid for Scientific Research】

❖ As of September 2016

	Application rules	Assessment rules	Utilization rules
KAKENHI (Series of Single-year Grants)	MEXT Procedures on the call for proposals	MEXT Rules concerning the assessment for Grants-in-Aid for Scientific Research Screening Outline for Grants-in-Aid for Scientific Research, category “Scientific Research on Innovative Areas” Assessment Outline for Grants-in-Aid for Scientific Research, category “Scientific Research on Innovative Areas”	
KAKENHI (Series of Single-year Grants)	JSPS Procedures on the call for proposals	JSPS Rules concerning the screening and assessment for Grants-in-Aid for Scientific Research ※The screening and assessment rules for FY2017 are scheduled to be made public in early October.	JSPS For researchers: Supplementary conditions For research institutions: Administrative work and other tasks concerning the use of Grants-in-Aid for Scientific Research (KAKENHI (Series of Single-year Grants)), to be performed by each research institution
KAKENHI (Multi-year Fund)			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 KAKENHI is used efficiently and effectively, for example through planning for the communal use of purchased items. Researchers receiving KAKENHI have a duty to comply with the related laws, regulations and utilization rules by researchers (subsidiary conditions or funding conditions), and also to use such grants appropriately. To ensure recipients comply with this requirement, we check whether no inappropriate use of KAKENHI will be made, when an application is made. (See note below.)

To facilitate the appropriate use of KAKENHI, research institutions to which the researchers belong are responsible for the management of the KAKENHI. The Administrative work that each research institution is required to carry out (rules for use for institutions) is determined.

Among other things, the research institution has the duty to secure the appropriate use of KAKENHI, for example, by setting up a system for the management and audit of the budget, and, for the expenditure of expenses for goods, by properly implementing the purchase order of goods, inspection and management of delivered goods. In order to prevent fraudulent accounting through fictitious business transactions (so-called "*azukekin*"), it is important, in addition to appropriate inspection of delivered goods, to widely inform traders about the rules and to obtain the understanding and cooperation of traders in the prevention of this kind of fraudulent accounting. Researchers need to strictly respond to traders who have been involved in fraudulent accounting through fictitious business transactions, for example by stopping doing business with such traders.

Researchers and persons in charge in the research institution should fully understand prior to the application that these rules will apply after the application is approved.

(3) Important points on the use of KAKENHI

For KAKENHI (Series of Single-year Grants) a package plan throughout the research period should be prepared and submitted upon application. However, after the research project is adopted, it will be handled as a project which is funded for each fiscal year during the research period in question. For example, KAKENHI (Series of Single-year Grants) cannot be used to pay costs in a fiscal year which falls outside the fiscal year(s) in which the funded project should be carried out.

Moreover, when it can be expected that the funded project will remain unfinished within the fiscal year, due to reasons beyond the control of the applicant(s), which could not be foreseen at the time it was decided to grant the funding, the costs in question can be carried over to the next fiscal year, provided that the Minister of Education, Culture, Sports, Science and Technology (MEXT) submits a request for approval for the carry-over to the Finance Minister through JSPS, and the approval from the Finance Minister is obtained.

For KAKENHI (Multi-year Fund), the research activity after the adoption of the grant will be handled as a single funded project throughout the whole research period. Therefore, it is possible to use the grant for paying costs in a fiscal year that is different from the fiscal year of receipt of the grant, if this happens within the research period.
Moreover, if within the research period an amount of money remains unused by the end of each fiscal year, except for the final fiscal year, costs can be carried over to the next fiscal year, without researchers having to go through prior authorization procedures. In addition, by obtaining prior approval for an extension of the research period, the period of the funded project can be extended by one fiscal year.

(4) The handling of a case in which the report on the research achievements has not been submitted

1) The report on the research achievements plays the important role of making the achievements of the research funded with a KAKENHI widely known to the citizens. It is an important tool in order to widely return the achievements of the research funded with a KAKENHI, which in turn has the tax of citizens and other sources as its resources, to society.

Therefore, researchers should submit the report on the research achievements at the end of the research period. The content of the research will be widely disclosed to the public via Database (KAKEN) of the National Institute of Informatics and other tools. Moreover, the research institution to which the researchers belong has to collect and submit the reports on the research achievements.

2) No funding of KAKENHI will be conducted for researchers who do not submit the report on the research achievements at the end of the research period, without any reason. Moreover, it may happen that the decision to KAKENHI to the researcher in question is cancelled, or that an order to return the grant is issued. It may also happen that information, such as the name of the research institution to which the researcher in question belongs and other data, is made public.

Furthermore, if researchers have failed, without good reason, to submit the scheduled report on the research achievements, then implementation of other KAKENHI due to be 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) Treatment in case of infringement of related laws and regulations

When related laws and regulations, guidelines, etc. have been violated upon implementation of the research plan, or when the content entered in the application documents has been found to be false, the provision of KAKENHI may not be carried out or may be cancelled.

5. “Guidelines on the Proper Implementation of Competitive Funding” and Other Matters

The “Guidelines on the Proper Implementation of Competitive Funding” (agreement of the liaison meeting of related offices and ministries on competitive funding, dated September 9, 2005; amended October 17, 2012) agree on the rules in the field of competitive funding on the elimination of unreasonable reduplication and excessive concentration, fraudulent receiving, of grants, fraudulent use and research-related fraudulent acts in research papers, and other matters in the related offices and ministries.

During the implementation of the competitive funding, including KAKENHI, these matters will

be dealt with appropriately, based on these Guidelines and other matters. Therefore, the applicant should consider carefully the following points.

(1) Eliminate Unreasonable Reduplication and Excessive Concentration

1) In order to avoid “Unreasonable Reduplication or Excessive Concentration” (*) of competitive funds, we may, to the extent necessary, share information on a part of the project description of the application between other divisions in charge of competitive funds, including other offices and ministries, independent administrative legal entities, etc., making use of the Cross-ministerial Research and Development management system (e-Rad).

Therefore, in the case of an application for more than one competitive funding (including in the case of an application for more than one Research Categories for KAKENHI), and other matters, the applicant should be careful when preparing the Proposal for Grant-in-Aid so that, for example, he or she fills in the Title of the Proposed Project in a way that makes it clear that it does not entail unreasonable reduplication.

If unreasonable reduplication or excessive concentration is found, KAKENHI may not be delivered.

2) Concerning the completed information on the condition of applications and receiving of other Competitive Funding and other matters, including from other offices and ministries, when preparing the Proposal for Grant-in-Aid (name of Research Funds, Title of Proposed Project, Research period, Effort, etc.), if the stated information turns out to be different from the facts, the Research Project will not be adopted, the adoption will cancelled, or the allotted research budget will be reduced.

(*) Eliminate Unreasonable Reduplication and Excessive Concentration

"Guidelines on the Proper Implementation of Competitive Funding" -Extract-

(Agreement of the Liaison Meeting of Related Offices and Ministries on Competitive Funding, Dated September 9, 2005 (Revision: October 17, 2012))

2. Eliminate Unreasonable Reduplication and Excessive Concentration

(1) Basic Policy of the Unreasonable Reduplication and Excessive Concentration

① In these guidelines, "Unreasonable Reduplication" is a situation in which more than one competitive funding is needlessly and repeatedly allotted to one and the same research project (i.e. the title and the content of the research to which competitive funding is being allotted; the same applies below) carried out by one and the same researcher. Either of the following cases fall under "Unreasonable Reduplication".

- **Cases where applications have been made at the same time for more than one competitive funding for substantively the same research project (including research projects that overlap to a considerable degree; the same applies below), and where these research projects are redundantly adopted .**
- **Cases 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 funding has already been completed.**
- **Cases where there is a reduplication of the use research funds among more than one research project.**
- **Other cases corresponding to the cases mentioned above.**

② In these guidelines, "Excessive Concentration" is a situation in which the entire research funds that are allotted to one and the same researcher or research group (hereinafter called "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 fall under "Excessive Concentration".

- **Cases where, in the light of the abilities of the researcher, etc. and the research methods, etc., excessive research funds are allotted.**
- **Cases 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.**
- **Cases where the purchase of unnecessarily expensive equipment is carried out.**
- **Other cases corresponding to the cases mentioned above.**

(2) Dealing with "Fraud, Waste and Abuse", "Fraudulent Receipt" or "Fraudulent acts"

○ "Fraud, Waste and Abuse", "Fraudulent Receipt" and "Fraudulent acts" refer to the following type of acts respectively.

・"Fraud, Waste and Abuse of Grants":
Use of 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 funds in violation of the content of the funding decision or the conditions it implies

・"Fraudulent Receipt":
Receiving 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

・"Fraudulent acts":
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.

1) **No KAKENHI will be offered, for a fixed period of time, when a researcher or related party has committed a fraud, waste or abuse of KAKENHI, has committed a fraudulent receipt of KAKENHI, or has committed a fraudulent acts.** Moreover, for research projects

for which it is established that a fraud, waste or abuse of grants, a fraudulent receipt of grants or fraudulent acts has been committed, he/she may be required to return the given KAKENHI completely or partially.

Moreover, an outline of the fraud, waste or abuse of KAKENHI, the fraudulent receipt of KAKENHI, and/or the fraudulent acts in question of the researcher who falls in those categories (containing an outline of the research achievements 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 a fraud, waste, abuse, or fraudulent receipt of competitive funding other than KAKENHI (including funds under the control of other ministries) etc., and/or has committed fraudulent acts by means of these competitive funds, and therefore are excluded from receiving these funds in question, for a fixed period of time, will not receive KAKENHI for the fixed period of time.

Note: This applies to those schemes newly starting a call for proposals in FY2016 (and onward) for "competitive funding other than KAKENHI" as well. It also applies to those schemes that ended before FY2015. Please refer to the website below for the schemes to which this specifically applies at present.
Cf. URL http://www8.cao.go.jp/cstp/compefund/kyoukin28_seido_ichiran.pdf

○On the designation of the period during which no KAKENHI will be funded

"Fraud, Waste and Abuse" and "Fraudulent Receipt"

<table>
<tr><th>Subject of Measures</th><th colspan="2">Extent of the fraud, waste and abuse</th><th>Period during which no KAKENHI shall be funded</th></tr>
<tr><td>I. Researchers who committed a fraud, waste or abuse and researchers who conspired in such fraudulent acts</td><td colspan="2">1. Diversion of funds for personal gain</td><td>10 years</td></tr>
<tr><td rowspan="3">II. Researchers who committed a fraud, waste or abuse and researchers who conspired in such fraudulent acts</td><td rowspan="3">2. Other than 1.</td><td>(1) Cases where it is judged that the impact on society is major and the level of maliciousness involved in the act is high</td><td>5 years</td></tr>
<tr><td>(2) Cases other than (1) and (3)</td><td>2 to 4 years</td></tr>
<tr><td>(3) Cases where it is judged that the impact on society is minor and the level of maliciousness involved in the act is low</td><td>1 year</td></tr>
<tr><td>III. Researchers who received a KAKENHI by deception or other fraudulent means and researchers who conspired in such fraudulent acts</td><td colspan="2">—</td><td>5 years</td></tr>
<tr><td>IV. Researchers who were not directly involved in the fraud, waste and abuse, but who violated the duty of due care of a prudent administrator</td><td colspan="2">—</td><td>Half of the period of restrictions on funding for researchers who committed fraudulent use (upper limit 2 years, lower limit 1 year, rounding off fractions)</td></tr>
</table>

Moreover, to the persons who fall under one of the descriptions below, a "strong warning" shall be issued.

1. Among the cases mentioned in point II above, researchers about whom it has been judged that the impact of their acts on society is minor, the level of maliciousness of their acts is low, and the amount of money related to the fraud, waste and abuse is small.
2. Among the cases mentioned in point IV above, researchers considered to have violated the duty of due care as a prudent administrator for the funded projects about which it has been judged that the impact of their acts on society is minor, and level of maliciousness of their acts is low.

"Fraudulent acts "

<table>
<tr><th colspan="3">Classification of Involvement in Fraudulent Acts</th><th>Influence on Science / Society
Degree of Maliciousness</th><th>Period during which no KAKENHI shall be funded</th></tr>
<tr><td rowspan="4">Persons involved in fraudulent acts</td><td colspan="2">(a) Particularly malicious persons in cases where, for example, the persons intended to commit fraudulent acts from the beginning of the research</td><td></td><td>10 years</td></tr>
<tr><td rowspan="3">(b) Authors of papers, etc. related to the research in which fraudulent acts have been committed (except (a) above)</td><td rowspan="2">Authors responsible for the paper(s), etc. in question (responsible chief editors, lead authors or persons found to bear responsibilities equal to these persons)</td><td>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</td><td>5 to 7 years</td></tr>
<tr><td>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</td><td>3 to 5 years</td></tr>
<tr><td>Persons other than authors responsible for the paper(s) etc. in question</td><td></td><td>2 to 3 years</td></tr>
<tr><td colspan="2">(c) Non-authors involved in the research that had fraudulent acts committed, other than (a)</td><td></td><td>2 to 3 years</td></tr>
<tr><td colspan="3" rowspan="2">Authors responsible for the paper(s), etc. (responsible chief editors, lead authors or persons found to bear responsibilities equal to these persons) related to the research in which fraudulent acts has been committed, but who were not directly involved in the fraudulent acts</td><td>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</td><td>2 to 3 years</td></tr>
<tr><td>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</td><td>1 to 2 years</td></tr>
</table>

* In cases where individual consideration is warranted, such as the withdrawal of a paper, the period can be shortened by an amount appropriate to the circumstances.

2) A researcher who falls into these categories may be restricted in applying for or participating in other competitive funds, including those provided by other Government Offices and Ministries, as the information of the fraudulent case in question will be provided to the relevant offices (including independent administrative legal entities and other grant-allocating institutions) in charge of funding within such Offices and Ministries.

Note: "Applying and participating" means proposing new 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 projects).

3) If it is established that fraudulent acts has taken place in a research paper, report, or other research output funded by KAKENHI, the researcher will be treated in the same way as stated in the above-mentioned 1) and 2). The severity of the fraudulent acts and other matters will be taken into consideration.

Moreover, a person who is determined to have a certain responsibility, because, for example, he or she neglected his/her duty of care as a person in charge of the paper, report, etc. in question, will be treated in the same way, even if it has not been established that he or she was directly involved in the fraudulent acts.

4) 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 2014), Ordered by the Minister of Education, Culture, Sports, Science and Technology" and "Guidelines for Responding to Misconduct in Research（Adopted August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology （MEXT）)". Therefore, research institutions should pay adequate attention to these two sets of Guidelines when researchers implement their research activities.

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

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

○ "Guidelines for Responding to Misconduct in Research "

Cf. URL http://www.mext.go.jp/a_menu/jinzai/fusei/index.htm

(Note) Examples of recent "fraud, waste and abuse", "fraudulent receipt" or "fraudulent acts ".

○ Fraud, Waste and Abuse

・Someone instructed a trader to complete a fictitious transaction, pretended to have purchased consumables, had KAKENHI expended by the university, and then had it managed as money deposited to the trader.

・Someone instructed a trader to complete a fictitious transaction, had a false invoice issued on which the name of a good that is different from the good that had actually been purchased and delivered was stated, and then had KAKENHI expended by the university.

・Someone had a work attendance sheet for work that was actually not carried out drawn up for a graduate student, charged the payment of remuneration, and then managed the money himself, as a pooled fund.

・Someone stayed in a destination different from the scheduled travel plan, in order to have a meeting on collective research unrelated to the purpose of the research project, and then put the costs under travel expenses associated with overseas travel.

(Note) The expenditure of KAKENHI for fictitious and other transactions, like the ones mentioned in the examples, are all considered "fraud, waste and abuse", even if the expenditure of KAKENHI was intended for the research project related to the Grant-in-Aid for Scientific Research in question.

○ Fraudulent receipt

・A researcher who was not eligible to apply or receive grants applied for a KAKENHI and for funding of it, and then fraudulently received the subsidy.

○ Fraudulent acts

・Someone manipulated or forged experimental data or a chart in a research paper published as the achievements of research funded with a KAKENHI.

・Someone translated an original English-language research paper without obtaining prior consent from the author(s), incorporated this translation into a book or report on the research achievements published as the achievements of research funded with a KAKENHI, and made it public as the research achievements of the research project in question, without clearly mentioning that it was being quoted.

6. On the transmission of Research Achievements obtained through KAKENHI

KAKENHI research achievements are made open to other researchers and the public through the publication of the research outline and the report on the research achievements on the database of Grants-in-Aid for Scientific Research (KAKEN) of the National Institute of Informatics.

In addition to this, with KAKENHI, it is made possible to directly use funds in order to fund outreach activities of the researcher to announce or spread information about the research achievements, such as the creation of a website or printing of pamphlets, etc. Therefore, we ask

researchers to proactively pursue the spreading of research achievements obtained through the aid of KAKENHI to society and the public at large.

Moreover, JSPS is implementing the "HIRAMEKI ☆ TOKIMEKISCIENCE" program where the latest research achievements are introduced in an easy to understand fashion to elementary, junior high, and high school students, so please strive to ensure this as well.

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

(1) Concerning the Acknowledgement of KAKENHI research achievements etc.

When publishing research achievements that have been obtained as a result of a KAKENHI, researchers should always be sure to indicate that a KAKENHI was received. Furthermore, we ask that researchers always indicate that these research achievements were obtained as a result of KAKENHI in the Acknowledgment section of the paper. Especially important is to include "JSPS KAKENHI Grant Number JP8 digits" in the case of English or "JSPS 科研費　JP8 桁の課題番号" in case of Japanese.

〈Example〉
【English】This work was supported by JSPS KAKENHI Grant Number JP16K45678.
【Japan】本研究は JSPS 科研費 JP16K45678 の助成を受けたものです。

(2) Concerning the promotion of providing open access versions of papers written with the support of KAKENHI

Together with the expansion of ICT in recent years, the use of Open Access with academic journals etc. that allows for the free access of scientific papers, is expanding globally. With this in mind, please consider publishing papers funded through KAKENHI in the open access sphere whenever possible.

【Reference 1: What is "Open Access"】

In the case of articles in peer-reviewed Open-Access form, it is defined as: "free availability on the public Internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, parse them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers" 'BOAI; Budapest Open Access Initiative (2002)

【Reference 2: Implementation of Open Access】

There are 3 main ways to implement Open Access (①～③ below)

①In the case of articles published in conventional subscription-based academic journals, after a set period of time (embargo*), for example 6 months, the author can, after receiving the publisher's permission, publish the article on the website of the research institute the author belongs to (institutional repository**) or publish the latest manuscript on the researcher's own website (self-archiving***), and thus make the article open access.

②Publication of the article on the website of a research community or a public organization and thus making it available in open access form

③Others (The article's author can bear the cost of the Article Processing Charge (APC) and make the article available in open access.)

* “Embargo”
The period from publication of an article in an academic journal until it can be published in its entirety on an online archiving system (repository).

** Institutional Repository
An online archiving system created by a university or research institution for the use of conserving and transmitting intellectual products. Together with reforming a change in the distribution system of academic information by having the researchers publish their own articles, these repositories fulfill important roles, 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.

***Self-archiving
The publishing online (in general on institutional repositories) of articles, dissertations, or data that were previously published in academic journals, by those other than the publisher, (the researcher or research institution) in order to make them available in open access.

II. Details of the Call for Proposals

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

The following shows the research categories for which the Japan Society for the Promotion of Science is organizing a call for proposals:

Specially Promoted Research, Scientific Research (S/A/B/C), Challenging Research（Pioneering/Exploratory）, Grant-in-Aid for Young Scientists (A/B)

2. Schedule from Application to Receipt of Funding

(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 Principal Investigator** (See "Ⅲ Instructions & Procedures for those Intending to Apply" and "Ⅳ Instructions & Procedures for those Who Have Already Been Accepted")	**Procedures to be Performed by the Research Institution** (See "Ⅴ Instructions & Procedures for Staff of the Research Institution")
From September 1, 2016 Start of the Call for Proposals	①Preparing 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. ↓ ② 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. ↓	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.) 4) 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". ・Submission of the "Checklist Pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research" **Deadline for submission: October 4 (Tue.)) (to be strictly observed)**

November 7 (Mon) 4:30 pm **Deadline for the Submission** **(to be strictly observed)**	←	5) Submission (Sending) of the Application Documents →

Notes:

1. After the Principal Investigator submit (Sending) to the application to the research institution (mentioned in "Procedures to be Performed by the Principal Investigator" ②), the research institution should submit (Sending) to the JSPS the application the application by the deadline for the submission (mentioned in "Procedures to be Performed by the Research Institution" 5)).

   Next, he or she should verify the section "Preparing the Application and Submitting the Application" (pages), 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" 4)). If it has not been submitted, the applications of researchers belonging to the research institution in question will not be accepted in the Electronic Application System.

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

Specially Promoted Research	Scientific Research (S)	Scientific Research (A/B/C), ※2 Grant-in-Aid for Young Scientists (A/B)
December 2016 to April 2017: Screening Late April 2017: Informal decision to grant the funding Middle of May: Application for funding Late June: Decision concerning the granting of the funding Middle of July: Remittance (part of the first term) ※1 Around October: Remittance (part of the second term) ※1	December 2016 to May 2017: Screening Late May 2017: Informal decision to grant the funding Middle of June: Application for funding Late June: Decision concerning the granting of the funding Middle of July: Remittance (part of the first term) ※1 Around October: Remittance (part of the second term) ※1	December 2016 to March 2017: Screening Early April 2017: Informal decision to grant the funding Late April: Application for funding Late June: Decision concerning the granting of the funding Middle of July: Remittance (part of the first term) ※1 Around October: Remittance (part of the second term) ※1

Scientific Research (B/C) （Generative Research Fields）,	Challenging Research （Pioneering/Exploratory）
December 2016 to June 2017: Screening Middle of July 2017: Informal decision to grant the funding Late of July: Application for funding Middle of August: Decision concerning the granting of the funding	December 2016 to June 2017: Screening Middle of July 2017: Informal decision to grant the funding Late of July: Application for funding Middle of August: Decision concerning the granting of the funding

※1 From FY2012 on, the amount requested for funding or the amount requested for payment (direct costs) will be remitted separately in two installments, i.e. one during the first term (from April until September) and the other during the second term (from October until March), if this amount for the fiscal year in question is 3 million yen or more, and it will be remitted in a lump sum during the first term, if it is less than 3 million yen.

※2 This does not apply to Scientific Research (B/C) (Generative Research Fields).

3. Details of Each Research Category

1) Specially Promoted Research: KAKENHI (Series of Single-year Grants)

A) Intended for: Research project carried out **by one researcher or by a relatively small group of researchers** that is likely to yield highly acclaimed research achievements through intensive funding. The goal of the funding is the increased promotion of research which is highly regarded in the international arena.

B) Total budget provided **(total budget throughout the research period the same applies below):**

As a general indicator, the upper limit of the total budget provided per research project is fixed at around 500 million yen. However, if it is deemed necessary, applications exceeding this amount are also possible. Moreover, no lower limit has been established.

※ Handling of research projects with a total budget exceeding 500 million yen

If the total budget exceeds 500 million yen, the reason why such a budget is needed should be stated in detail in the appropriate section of the proposal for grant-in-aid. Especially rigorous screening on the appropriateness of the budget will be conducted.

※ On the lower limit of total budget

No lower limit of the total budget has been established for research categories that further promote research which is highly regarded in the international arena and that are likely to yield highly acclaimed research achievements.

C) Research period: Three to five years

D) Number of research projects scheduled to be selected: Around 10 (subject to strict selection)

E) Research funding: **KAKENHI (Series of Single-year Grants)** are granted.

F) Important points: For research projects that have been adopted, an on-site review will be conducted as part of the research progress assessment (in the second rule as a general rule), and there will be a hearing interview in the first half of the final year. Moreover, based on the results of this research progress assessment, an increase or a reduction of the research budget, cancellation of the research, or other measures may subsequently be implemented, if the need arises. Moreover, a follow-up assessment will be conducted 5 years after the completion of the research period.

2) Scientific Research (S): KAKENHI (Series of Single-year Grants)

A) Intended for: **Research project performed by one researcher or by a relatively small group of researchers**, with the purpose of achieving a major development in creative and pioneering research, based on past research achievements

B) Total budget provided: **From 50 million yen to around 200 million yen**

C) Research period: Five years as a general rule

※As an exception, the research period may be set at three or four years, in case any of the researchers are expected to leave the research institution, due to reaching retirement age, or for any other reason.

D) Research funding: **KAKENHI (Series of Single-year Grants)** are granted.

E) Important points: For research projects that have been adopted, a research progress assessment will be conducted in the fiscal year before the final fiscal year of the research period. Moreover, based on the results of this research progress assessment, an increase or a reduction of the research budget, cancellation of the research, or other measures may subsequently be implemented, if the need arises.

3) Scientific Research (A/B/C)

Scientific Research (A): KAKENHI (Series of Single-year Grants)

Scientific Research (B): KAKENHI (Series of Single-year Grants) (screening division "General" Oversease Academic Research") and KAKENHI (Multi-year Fund) (screening division "Generative Research Fields")

Scientific Research (C): KAKENHI (Multi-year Fund)

A) Intended for: Research project done by one or by multiple researchers, with the purpose of achieving a major development in creative and pioneering research.

B) Total budget provided: Applications are to be divided into the following three divisions, according to the total budget provided.

Division	Total budget provided	Screening division
Scientific Research (A)	**between 20 million and 50 million yen**	General / Overseas Academic Research
Scientific Research (B)	**between 5 million and 20 million yen**	General / Overseas Academic Research/ Generative Research Fields
Scientific Research (C)	**5 million yen or less**	General/ Generative Research Fields

C) Research period:

Screening division: “General” and “Overseas Academic Research”: Three to five years

Screening division: “Generative Research Fields”: Three to five years (Depending on the fiscal year the application is made, the possible research period for which to apply may be different.)

D) Screening division: When applying, **select one of the following screening divisions.**

Screening division: “General”

The screening division accepts applications relating to **Scientific Research (A/B/C)**. It is intended for projects which will develop innovative research.

All applications should be made for this screening division, except for research projects which are classified as “Overseas Academic Research” and “Generative Research Fields”.

Screening division: “Overseas Academic Research”

This screening division only accepts applications for **Scientific Research (A/B)**. It is intended for research projects having as their **major purpose** in terms of research subject and research methods **conducting a field survey, observation, or collecting data at a specific location overseas.**

If a field survey, or a similar survey, is not the main purpose of the project, please apply for the “General” screening division. Moreover, as far as the purchase of equipment is concerned, the use of grants in the “Overseas Academic Research” screening division is limited to equipment that is directly used for surveys, observation or collection of data overseas, except inexpensive personal computers.

Screening division: “Generative Research Fields”

This screening division only accepts applications for **Scientific Research (B/C)**. For FY2017, the three new areas “Orality and society”,“Agricultural Resources for the Next Generation” and “The Information Society and Trust” have been established, in addition to “Conflict Studies”, “Transition State Control” and “Constructive Systems Biology”, which were established in FY2015 and “Global Studies”, “Intensification of Artifact Systems” and “Complex Systems Disease Theory”, which were established in FY2016.

Generative Research Fields are open to those research proposals whose screening would be considered difficult under existing research fields and those applicants who prefer their proposals to be screened from a broader perspective related to a Generative Research Field. Therefore, while it is possible to apply under several research categories simultaneously, research plans for applications to Generative Research Fields, are limited to those that do not overlap with continuous research

projects or research projects applied for in different categories.

(*) ・Each area is established as an area within the "Generative Research Field" for five years, while the proposal solicitation for each area will continue for three years, beginning with the fiscal year when the area is established. Thus, in the first fiscal year of the solicitation, the research period for which application proposals can be made is from three to five years, in the second fiscal year from three to four years, and in the third fiscal year three years.

・Scientific Research (B) and Scientific Research (C) will be screened without distinction.

・If the number of applications is large, screening may be conducted based primarily on the outline version of the Proposal for Grant-in-Aid.

・Number of research projects scheduled to be selected: **no more than 30 for each area** .

・There will be a meeting hosted for Principal Investigators whose projects have been adopted to get mutually acquainted.

E) Research funding: For Scientific Research (A), **KAKENHI (Series of Single-year Grants)** are granted. For Scientific Research (B), **KAKENHI (Series of Single-year Grants)** are granted for the screening divisions "General" and "Overseas Academic Research", and **KAKENHI (Multi-year Fund)** are granted for the screening division "Generative Research Fields". For Scientific Research (C), **KAKENHI (Multi-year Fund)** are granted.

4) Challenging Research (Pioneering/Exploratory): KAKENHI (Multi-year Fund)

A) Intended for: A research project of one or multiple researchers that has the intent of greatly transforming or changing the scientific scheme or direction as it was up to now and has rapid growth potential.

Furthermore, (Exploratory) covers research projects that have a strong exploratory nature, or are in their beginning stages.

* While there are cases in which it is possible to do duplicate applications in other research categories, the research project in the application has to differ from that in the other research categories. In particular, this research category has different screening criteria from the Scientific Research etc. categories, so please pay attention to the fact that the target is challenging research projects such as those above.

B) Total budget provided: Challenging Research (Pioneering) **5 million to 20 million yen**

Challenging Research (Exploratory) **5 million or less yen**

C) Research period: Challenging Research (Pioneering) 3-6 years

Challenging Research (Exploratory) 2-3 years

D) Research funding: **KAKENHI (Multi-year Fund)** are granted.

E) Important Points: ・The aim of establishment and fundamental concept of this research category

are published in "On the Strengthening of Support for Challenging Research Through KAKENHI (Interim Summary)" (1 August 2016 Science and Technology Council, Science Subcommittee, Research Fund Subcommittee, Operation Subcommittee on the Strengthening of Support for Challenging Research). Please read this interim summary carefully before drafting and creating your research project.

URL : http://www.mext.go.jp/a_menu/shinkou/hojyo/1284543.htm

・This category will be comprehensively screened(*) based on the "The area of research for the screening of Challenging Research (tentative for the FY 2017 application)" (See p.100-101 Attached Table 5). Further, FY 2018 screenings (call for applications planned in September 2017), will be conducted in the middle division after official decision.[1]

* comprehensively screened

After a document-based screening by all jury members, the same jury members will conduct screening through broad-based discussion.

・Please be aware that the screening will be conducted from multiple perspectives from a wider range of fields (see p.100-101 Attached table 5) than the previous Challenging Exploratory Research.

・Adopted research projects will be carefully selected based on the aim of the research category. Therefore, the expected adopted project number is set to an upper limit of 250 for (Pioneering) and based on budget, around 1,000 for (Exploratory).

・Adopted projects are planned to be allotted while respecting the application amount to the highest degree.

・If the amount of applications is high, a preliminary screening based on the outline of the Research Plan may be conducted.

5) Grant-in-Aid for Young Scientists (A/B)

Grant-in-Aid for Young Scientists (A): KAKENHI (Series of Single-year Grants)
Grant-in-Aid for Young Scientists (B): KAKENHI (Multi-year Fund)

A) Intended for: A research project conducted by **one researcher aged 39 or less as of April 1, 2017** (a person born on April 2, 1977, or thereafter) with an original idea that is expected to bring forth a major development in the future.

[1] The Subdivision on Grants-in-Aid for Research in the Subdivision on Science , the Council for Science and Technology is working on a revision of the "List of Categories, Areas, Disciplines, and Research Fields" and screening methods with the aim of moving to a new screening system from KAKENHI of FY 2018 ("Reforming the screening system FY2018 of Grants-in-Aid for Scientific Research (KAKENHI) "). To this end, we have invited suggestions, and, keeping these suggestions in mind, will be coordinating a final reform proposal by the end of this year.
The main text of "Reforming the screening system FY2018 of Grants-in-Aid for Scientific Research (KAKENHI) " and the outline of "comprehensively screened" and the "Medium Category" can be found in the related documents on the URL below
URL : http://www.mext.go.jp/a_menu/shinkou/hojyo/1370049.htm

B) Total budget provided: Applications are to be divided into the following two divisions, depending on the total budget provided.

Division	Total budget provided
Grant-in-Aid for Young Scientists (A)	**From 5 million yen to 30 million yen**
Grant-in-Aid for Young Scientists (B)	**5 million yen or less**

C) Research period: Two to four years

D) Research funding: For Grant-in-Aid for Young Scientists (A), **KAKENHI (Series of Single-year Grants)** are granted. For Grant-in-Aid for Young Scientists (B), **KAKENHI (Multi-year Fund)** are granted.

E) Important points: On the "Restriction on the Number of Times of Receiving a Grant (*)".

From the call for proposals of FY2010 on, JSPS decided to introduce a limitation on the number of times applicants can receive grants through Grant-in-Aid for Young Scientists (S/A/B). **JSPS has decided that applicants can only receive grants twice for any of the research categories, through Grant-in-Aid for Young Scientists (S/A/B).**

(*) "Receiving a grant" means being selected as a Grant-in-Aid for Young Scientists (S/A/B) "Receiving a decision concerning the granting of the funding" here.

In addition, even if a research project of which the research period goes over more than one fiscal year received a decision concerning the granting of the funding, under one and the same project number, the "Number of Times of Receiving a Grant**"** will be considered as "one time".

Therefore, if, for example, researcher A conducted research from FY2003 to FY2004 with a "Grant-in-Aid for Young Scientists (B) (project number: 15******)", and is conducting research from FY2006 to FY2009 with a "Grant-in-Aid for Young Scientists (A) (project number: 18******)", the "Number of Times of Receiving a Grant**"** will be considered as "two times".

Moreover, in both the following cases, the "Number of Times of Receiving a Grant**"** will be considered as "one time".

- Cases where the researcher declined the application for funding in the middle of the research period, or where he or she discontinued the research, after he or she received a decision concerning the granting of the funding.
- Cases where the researcher applied during Grants-in-Aid for Scientific Research FY2006 for a "Grant-in-Aid for Special Purposes (Trial of Multiple Applications per Year)" with a research plan suitable for a "Grant-in-Aid for Young Scientists", where that application was adopted, and where the researcher received the decision concerning the granting of the funding.

(Reference) Please note that the following cases do not contain a "Number of Times of Receiving a Grant".

- In cases where, after the researcher received an informal decision to grant the funding for new research projects, he or she refused the application for funding, and did not receive the decision concerning the granting of the funding, there is no "Number of

Times of Receiving a Grant". (This also includes cases where the researcher declines the grant, after he or she suspended the application for funding.)

- For Continued Research Projects of the category "Grant-in-Aid for Young Scientists (B)" in FY2002 (projects that have been newly approved in FY2001 as "Encouragement of Scientists (A)" with project number "13******") there is no "Number of Times of Receiving a Grant", even if the researcher would have received the decision concerning the granting of the funding.

III. Instructions & Procedures for those Intending to Apply

1. Procedures to be Completed Prior to the Application

Three matters need to be completed before the application: (1) Verification of the Eligibility to Apply, (2) Verification of the Registration of the Researcher Information (e-Rad), (3) Obtaining an ID and a Password to Use the Electronic Application System.

(1) Verification of the Eligibility to Apply

A qualified person should apply for a Grant-in-Aid for Scientific Research as a Principal Investigator.

Applicants should meet the following requirements 1) and 2).

Moreover, if a qualified applicant belongs to more than one research institution, he or she can apply simultaneously from each of these research institutions. However, in that case, it is to consider the rules on duplicate applications (see page 28).

In addition, JSPS Research Fellows (DC) and Foreign JSPS Fellows cannot apply for "Grant-in-Aid for Scientific Research".

Students, such as, for example, graduate students, cannot apply for Grants-in-Aid for Scientific Research. (See note.) Therefore, applicants should bear in mind that, students cannot apply, even if they hold a position in which they conduct research activities in the research institution to which they belong or in another research institution.

(Note1) Persons who have a position consisting of conducting research activities in the research institution to which they belong, as their main work (e.g., university teaching staff, researchers from companies, etc.), and who also have a student status are not included in the term “student”.

(Note2) JSPS Research Fellows (SPD, PD, or RPD) can also apply for any of the research categories except for “Grant-in-Aid for JSPS Fellows”, if they meet the following application requirements at their research institutions which they register as their host research institution.

① **At the time of the application, a person needs to be recognized by the research institution (Note) to which he or she belongs to be a researcher who meets the requirements 1) , 2) and 3) below, and needs to be a researcher whose Researcher Information has been registered in e-Rad as "Eligible to Apply for Grants-in-Aid for Research".**

Requirements

1) **The researcher should belong to the research institution as a person who has *inter alia* the duty to perform research activities within the research institution in question** (irrespective of whether the work is paid or unpaid, full-time of part-time. Moreover, it is not necessary for the researcher to perform these research activities as such as his or her main duty.)

2) **The researcher should actually be engaged in research activities at the research institution in question** (This does not apply to cases where he or she is only engaged as a research assistant.)

3) **The researcher is not a graduate student or any other category of student.** (However, this does not apply to persons who have a position consisting of conducting research activities in the research institution to which they belong, as their main work (e.g., university teaching staff, researchers from companies, etc.), and who also have a student status.)

Note: Research institutions as prescribed in Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research (announced by the Ministry of Education)

(Reference) Requirements that need to be met by the research institution (see page 106)

Requirements

- If a KAKENHI is given, the research activity should be conducted as an activity of the research institution in question.
- If a KAKENHI is given, the research institution should carry out the management of the KAKENHI.

② **A person should not fall under "Not eligible for receipt of funding" in FY2017, because he or she committed fraudulent use, fraudulent receiving of grants or fraudulent acts of/with Grants-in-Aid for Scientific Research or other competitive funding.**

Persons who are employed through KAKENHI (hereinafter called "research grant employees"), as a rule, need to concentrate on work related to a KAKENHI at their place of employment (hereinafter called "employment related work") according to their employment contracts. Therefore, considering the working hours they need to allot to the employment related work, they cannot apply for KAKENHI themselves.

However, if they provide a clear explanation on the time they can spend besides their employment related work, and if during this time they themselves attempt to conduct research using a KAKENHI, on their own initiative, it is possible for them to apply for KAKENHI, on condition that the following points have been verified in the research institution.

・It has been determined in the employment contract that research grant employees themselves can conduct research on their own initiative, besides the employment related work.
・The employment related work and the work devoted to research that they conduct themselves on their own initiative has clearly been divided in the working hours and the effort.
・Time that can be allotted to research which they attempt to conduct themselves on their own initiative has sufficiently been secured, besides the time spent for employment related work.

In addition, it may happen to researchers that they are treated as indicated below, even if their researcher information has been registered in e-Rad as "Eligible to Apply for KAKENHI".

・If it is judged in the research institution to which researchers belong that it is not appropriate to let them conduct their research activities as activities of the research institution in question, it may happen that the research institution does not recognize the application. It may also happen that the application for funding by these researchers in question is not recognized and that the application for funding of the KAKENHI is rejected.
・No KAKENHI will be funded, if there is a new application for Grants-in-Aid for Scientific Research from researchers who do not submit the report on the research achievements at the end of the research period, without any reason, even if their research has been adopted after screening. Moreover, if researchers have failed, without good reason, to submit the scheduled report on the research achievements, then implementation of other Grants-in-Aid for Scientific Research due to be implemented in the same fiscal year will be suspended.

(2) Verification of the Registration of the Researcher Information in e-Rad

A Principal Investigator who tries to apply for research categories for which a call for proposals is organized this time should be a person who is eligible to apply at the time of the deadline for the submission of the application documents, and should be a person whose researcher information is registered in e-Rad as "Eligible to Apply for KAKENHI".

Therefore, **when applying, it is necessary to first perform a verification of the content of the registration in e-Rad.**

Regarding the registration in e-Rad, in order for **the research institution** to which the Principal Investigator belongs to conduct the procedures in e-Rad, he or she should verify concerning the registration procedures to be conducted by the research institution to which he or she belongs (registration deadline within the research institution, methods of verification of the current state of the registration, etc.) with the research institution to which he or she belongs. (If there is any item (such as "the institution", "the position", or others) that needs to be corrected, even though he or she has already been included in e-Rad of the research institution, the applicant needs to register the correct information on e-Rad.)

(3) Obtaining an ID and a Password to Use the Electronic Application System

When the research institute you belong to finishes the researcher registration on e-Rad, your e-Rad ID and password will be issued. When applying, please access the Electronic Application System using the ID and password for e-Rad and **prepare the application documents**.

Moreover, once the ID and the password have been provided, they can be used, even if the applicant changes the research institution to which they belong The applicant must strictly protect the login ID and password in order to prevent them from being disclosed to others.

(Reference) On "Grant-in-Aid for Research Activity Start-up"

The "Grant-in-Aid for Research Activity Start-up" is aimed at supporting persons who cannot apply for the call for proposals this time, such as researchers who have just been employed by their research institutions, researchers who return from childcare leave or other kinds of leave, or other researchers.

The FY2017 call for proposals for this research category is scheduled for March 2017, and the eligibility to apply is scheduled to be as follows.

① Persons who could not apply for a research category, because they became eligible to apply for KAKENHI on the day after the application deadline (November 7, 2016) for the research categories (*) for which the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Japan Society for the Promotion of Science (JSPS) organized a call for proposals in September 2016.

② Persons who could not apply for the research categories (*) for which the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Japan Society for the Promotion of Science (JSPS) organized a call for proposals in September 2016, because they took up maternity leave or childcare leave in FY2016.

(Applicants should verify the details in the Application Procedures of March 2017.)

The research institution is responsible for conducting the registration of the researcher information and other matters in e-Rad. Therefore, researchers who may come to fall under the above-mentioned point ①, should respond appropriately and, for example, contact the office worker in charge in the research institution.

(*) Among the Grants-in-Aid for Scientific Research for FY2017 there are "Scientific Research on Innovative Areas", "Specially Promoted Research", "Scientific Research", "Challenging Research" and "Grant-in-Aid for Young Scientists".

(Note) Concerning JSPS Research Fellows (SPD, PD, or RPD), even if they satisfy the above application conditions, they cannot apply for "Grant-in-Aid for Research Activity Start-up".

2. Verification of the Restrictions on Duplication

Before preparing the application forms, researchers who would like to apply for KAKENHI need to sufficiently verify the rules for "restrictions on duplication" in order to find out whether it is possible to apply for the research category they would like to apply for.

(1) Restrictions on Duplication in the Basic Policy

In the KAKENHI different "Research Categories" and "Screening Divisions" have been made, based on the scale of the research, the content, and other factors. This makes it possible to apply for research projects that meet the demands of various research forms.

On the other hand, taking into consideration the necessity to support many excellent researchers

with limited resources, the danger of negatively affecting the operation of proper reviewing by an increase in the number of applications, and other elements, "Rules for Restrictions on Duplication" have been set up, based on the following fundamental principles.

① Making sure that as many excellent researchers as possible are supported with limited resources.
② Making sure that the number of applications does not increase dramatically, based on the reviewing system of each research category.
③ When setting up restrictions, primarily making the Principal Investigator who bears all responsibility eligible for the implementation of research projects, but also making the Co-Investigator (*kenkyū-buntansha*) eligible in some cases, for example, if the amount of funds in a research category is large.
④ Based on the fundamental principles outlined above, taking into consideration the purpose, character, and other elements of the "Research Categories" of the Grants-in-Aid for Scientific Research, and setting up restrictions on duplication separately, by making a distinction between the restrictions on application or restrictions on receiving of funds.

Restrictions on duplication have also been established in the research categories for which a call for proposals is organized this time. **Therefore, when applying, the applicant should sufficiently verify the description below and the "Table of Restrictions on Duplication" showed on p36-41.**

Moreover, if a research project falls under the concept "unreasonable reduplication" as shown in the "Guidelines on the Proper Implementation of Competitive Funding" (cf. p.7), it is likely to be judged to be "unreasonable reduplication" in the stage of the screening. Therefore, when preparing the Proposal for Grant-in-Aid, the applicant should take this into account.

(2) Restrictions on Duplicate Applications

① Cases where a researcher tries to apply as the "Principal Investigator" for two research projects.
【Type "Principal Investigator→Principal Investigator"】(see page 36)

Consequently, he or she cannot make more than one application for one and the same research category (screening division) at the same time **(In case he or she has a continued research project, he or she cannot apply for a new research project in one and the same research category (screening division))**.

(cases that fall under "－" in the table)

In case one researcher tries to make a duplicate application for two research projects, as the Principal Investigator for both, the following restrictions on duplicate applications of the type from A to D below apply.

However, this does not apply in case a researcher extended the research period for a KAKENHI (Multi-year Fund) and KAKENHI (Partial Multi-year Fund) in the final fiscal year (except in cases where she also obtained maternity leave or childcare leave) and in case of an "Application for a grant for the fiscal year before the final fiscal year of a research project" (See "Special cases

in the restrictions on duplicate applications", page 34).

A Cases where a researcher can only apply for one research project.

(cases that fall under "×" in the table)

B Cases where a researcher cannot apply for a new research project, because he or she is implementing a continued research project.

(cases that fall under "▲" in the table)

C Cases where a researcher can apply for both research projects, but, if both are adopted, he or she can only implement the research of one research project, as laid down in the rules.

For "■" in the table, the research categories in the section A are given priority
For "□" , the research categories in the section B are given priority

D Cases where, as a general rule, duplicate applicants are not recognized, but where a researcher can apply for both research projects, only if the conditions added below are met.

If a researcher applies as a Principal Investigator for "Scientific Research", screening division "Overseas Academic Research", as a general rule, he or she cannot apply as a Principal Investigator for "Scientific Research", screening division "General" However, except in cases where it is necessary to conduct individually two research projects which clearly differ in objective, plan or methodology within the same fiscal year.

(cases that fall under "★" in the table)

② Cases where a researcher who applies as the Principal Investigator tries to participate as the Co-Investigator (*kenkyū-buntansha*) of another research project.
【Type "Principal Investigator→Co-Investigator (*kenkyū-buntansha*)"】(see page 38)

In case one researcher applies as the Principal Investigator for a certain research project and at the same time also tries to participate as the Co-Investigator (*kenkyū-buntansha*) of another research project, or, in case a researcher who has already become the Principal Investigator of a research project the continuation of which is scheduled in FY2017 (continued research project) also tries to participate as the Co-Investigator (*kenkyū-buntansha*) of another research project, he or she can normally apply for both projects.

However, for a part of the research categories, mainly Specially Promoted Research, Scientific Research on Innovative Areas (Research in a Proposed Research Project), Challenging Exploratory Research, etc., there are restrictions on duplicate applications of the type from A to C below.

A Cases where a researcher can only apply for one research project.

(cases that fall under "×" in the table)

B Cases where a researcher cannot apply for a new research project, because he or she is implementing a continued research project.

(cases that fall under "▲" in the table)

C Cases where a researcher can apply for both research projects, but, if both are adopted, he or she can only implement the research of one research project, as laid down in the rules.

For "■" in the table, the research categories in the section A are given priority

③ Cases where a researcher who participates in research as the Co-Investigator (*kenkyū-buntansha*) tries to apply as the Principal Investigator of another research project.
【Type "Co-Investigator (*kenkyū-buntansha*)→Principal Investigator"】(see page 40)

In case one researcher tries to participate as the Co-Investigator (*kenkyū-buntansha*) in a certain research project and at the same time also applies as the Principal Investigator of another research project, or, in case a researcher who has already become the Co-Investigator (*kenkyū-buntansha*) of a research project the continuation of which is scheduled in FY2017 (continued research project) also applies as the Principal Investigator of another research project, he or she can normally apply for both projects.

However, for a part of the research categories, mainly Specially Promoted Research, or other projects, there are the same restrictions on duplicate applications as in point ②).

〔 **For "□"in the table, the research categories in the section B are given priority** 〕

④ Cases where a researcher who participates as the Co-Investigator (*kenkyū-buntansha*) of a research project also tries to participate as the Co-Investigator (*kenkyū-buntansha*) of another research project.
【Type "Co-Investigator (*kenkyū-buntansha*)→Co-Investigator (*kenkyū-buntansha*)"】

In case one researcher tries to participate as the Co-Investigator (*kenkyū-buntansha*) in a certain research project and at the same time also tries to participate as the Co-Investigator (*kenkyū-buntansha*) of another research project, or, in case a researcher who has already become the Co-Investigator (*kenkyū-buntansha*) of a research project the continuation of which is scheduled in FY2017 (continued research project) also tries to participate as the Co-Investigator (*kenkyū-buntansha*) of another research project, he or she can normally apply for both projects.

However, for Specially Promoted Research, a researcher cannot participate in two research projects as the Co-Investigator (*kenkyū-buntansha*). In addition, in case a researcher has already become the Co-Investigator (*kenkyū-buntansha*) of Specially Promoted Research, he or she cannot participate as the Co-Investigator (*kenkyū-buntansha*) of other Specially Promoted Research either.

(3) Restriction Rules on the Receiving of Grants

Among the Restrictions on Duplication, the handling of cases that fall under the category "A researcher can apply for both research projects. However, in case both are adopted, he or she can only implement the research of one research project" (restrictions on receiving of grants) is as follows.

On the handling in case both applications that fall under "■" or "□" are adopted

A In cases of "Principal Investigator" and "Principal Investigator" (cases of Principal Investigator of Specially Promoted Research and Principal Investigator of other research categories, etc.), as a result of the restrictions on duplication, a researcher should abandon (or should decline to accept) the research project that he or she cannot implement, if he or she can only implement the research category mentioned in section A or section B, as laid down in the rules.

B As a result of the Restrictions on Duplication of Principal Investigators of Specially Promoted Research and Co-Investigators (*kenkyū-buntansha*) of other research categories, a researcher should cease being a "Co-Investigator (*kenkyū-buntansha*)" for research projects other than Specially Promoted Research, if he or she can only implement a research project of Specially Promoted Research (as the Principal Investigator).

Moreover, if he or she ceases being the "Co-Investigator (*kenkyū-buntansha*)", he or she should abandon (or should decline to accept) research projects of which he or she cannot continue the research.

(4) Other Important Points

1) Even if duplicate application, etc. is possible according to the rules on restriction of duplication, the researcher should consider the restrictions in case of "Situations where the applicant cannot carry out his/her responsibility as a Principal Investigator or a Co-Investigator (*kenkyū-buntansha*), due to participation in multiple research projects". Altogether, he or she should consider the content of "Elimination of Unreasonable Reduplication and Excessive Concentration" mentioned on page 8.

2) Even if the application has been accepted in the Electronic Application System, it may happen in some cases that afterwards it is not accepted for reviewing, due to the Restrictions on Duplicate Applications. This may happen, for example, in case a change has taken place in the project members of continued research projects. The researcher should sufficiently verify this before the submission of the application documents.

3) Even when a researcher who is eligible to make applications in multiple research institutions applies at the same time from multiple research institutions separately, the restrictions on duplicated applications apply to that researcher in question (Principal Investigator or Co-Investigator (*kenkyū-bentansha*)).

4) When verifying the "Table of Restrictions on Duplication", the participation form to "Summarizing Group and International Group Research Projects" in Scientific Research on Innovative Areas (Research in a Proposed Research Area)" is special (see "Application Procedures for Grants-in-Aid for Scientific Research – KAKENHI - FY2017 (MEXT)"). Therefore, applicants should take note of the following points.

A The "Principal Investigator of Summarizing Group and International Group Research Projects in Scientific Research on Innovative Areas (Research in a Proposed Research Area)" should verify the relation with "Principal Investigators or Co-Investigators (*kenkyū-buntansha*) of research projects who try to make a duplicate application" in the relevant section of the "Table of Restrictions on Duplication".

B The "Co-Investigator (*kenkyū-buntansha*) of Summarizing Group and International Group

Research Projects in Scientific Research on Innovative Areas (Research in a Proposed Research Area)" should verify the **relation with "Participation Form to General Planned Research (Planned Research Other than Summarizing Group and International Group Research Projects) (Principal Investigators and Co-Investigators (*kenkyū-buntansha*))" and with "Principal Investigators or Co-Investigators (*kenkyū-buntansha*) of research projects who try to make a duplicate application"** in the "Table of Restrictions on Duplication".

5) In case the continued research project which needs to be abandoned according to the restriction on the receiving of grants ① has FY2017 as the final fiscal year, and ② has been selected before FY2015, the Principal Investigator should submit a report on the research achievements (a working paper) and other matters related to the research project in question by June 30, 2018.

6) For research categories for which the Ministry of Education, Culture, Sports, Science and Technology (MEXT) organizes a call for proposals, applicants should verify Attached Table 1 for restrictions on duplicate applications related to "a person who tries to apply as Principal Investigator or Co-Investigator (kenkyū-buntansha)" or "a person who has already become Principal Investigator or Co-Investigator (kenkyū-buntansha) of a research project that is scheduled to be continued in FY2017 (continued research project)".

7) In the case where JSPS Research Fellows (SPD, PD, or RPD) have become eligible in their research institutions which they register as their host research institution, it is possible for them to apply for the research categories "publicly invited research of Scientific Research on Innovative Areas (Research in a Proposed Research Area)", "Scientific Research (B/C) ", "Challenging Research （Exploratory）"and "Grant-in-Aid for Young Scientists (A/B)".
For the verification of the restrictions on duplicate applications for JSPS Fellows (SPD, PD, or RPD), applicants should consult with the section "Grant-in-Aid for JSPS Fellows (JSPS Research Fellow)" in the "Table of Restrictions on Duplication", even if they do not receive a Grant-in-Aid for JSPS Fellows.

8) If applicants applied for research categories to which the restrictions on duplicate applications apply ("Specially Promoted Research", "Research Projects in Scientific Research on Innovative Areas (Research in a Proposed Research Area) (Summarizing Group and International Group)", "Scientific Research (S/A)" , "Challenging Research （Pioneering） " and "Grant-in-Aid for Research Activity Start-up"), and subsequently they are employed as JSPS Fellows, and the research category for which they applied is also adopted, they have to select one of the two projects.
Moreover, during the period of their employment, JSPS Research Fellows (SPD, PD, or RPD) cannot apply for research categories to which the restrictions on duplicate applications apply.
Therefore, if the application has been accepted in the Electronic Application System, it may happen, in some cases, that afterwards it is not accepted for review, due to the Restrictions on

Duplicate Applications. The researcher should sufficiently verify this before the submission of the application documents.

9) Although there are no restrictions on duplicate applications between KAKENHI and other competitive funding schemes, applicants should consider the content of the section "Eliminate Unreasonable Reduplication and Excessive Concentration" mentioned on p.8. Especially, **when screening Specially Promoted Research, research projects that are suitable for funding as projects promoting strategic and creative research, in the light of the strategic goals, will, in principle, not be adopted. Consequently, researchers should consider this when applying.**

(5) Special cases in the restrictions on duplicate applications

(Application for a grant for the fiscal year before the final fiscal year of a research project)

1) When a Principal Investigator of a research project wishes to restructure the research project in the light of developments in the research in question, and the research project (continued research project) belongs to the type "Specially Promoted Research", "Scientific Research" (except "Scientific Research (B/C)" screening division "Generative Research Fields") or "Grant-in-Aid for Young Scientists", **the research period is 4 years or more, and FY2017 is the last fiscal year of the research period**, then he or she may apply for an "Application for a grant for the fiscal year before the final fiscal year of a research project".

Moreover, in accordance with these special cases, the number of projects for which a new application can be made, based on one continued research project, is limited to **one project.**

2) The research categories for which new applications may be made, as "Application for a grant for the fiscal year before the final fiscal year of a research project", are "Specially Promoted Research", and "Scientific Research" (except "Scientific Research (B/C)" screening division "Generative Research Fields"). However, the only research category for which a new application can be made, based on research projects of the category "Grant-in-Aid for Young Scientists (S/A/B)", is "Scientific Research".

3) It is not possible to make a new application for "Scientific Research (B/C)" screening division "Generative Research Fields", as "Application for a grant for the fiscal year before the final fiscal year of a research project". Moreover, it is not possible to make a new application based on "Scientific Research (B/C)" screening division "Generative Research Fields".

4) **The restrictions on duplicate applications do not apply** to cases where there is, on the one hand, a new application for a research project of the type "Application for a grant for the fiscal year before the final fiscal year of a research project" and, on the other hand, a continued research project on which the new application is based.

However, the restrictions on duplicate applications do apply to cases where there are, on the one hand, these projects and, on the other hand, other research projects under the supervision of the same Principal Investigator for which an application has been made (including continued research projects).

5) **When the research project for which a new application has been made is selected, the KAKENHI of FY2017 for the continued research project on which the new application is based will, as a general rule, not be paid. Even in case when the grand has been paid, the full amount of the grant should be refunded**. For this reason, the proposal for grant-in-aid for a research project for which a new application is made should include a part of the budget necessary for the implementation of the continued research project for FY2017.

   Moreover, in this case, the Principal Investigator should submit a report on the research achievements (a working paper) and other matters related to the continued research project in question by June 30, 2018 Therefore, he or she should include the budget for the report, etc. in question, when completing the preparations.

(Handling of Restrictions on Duplicate Applications Brought About by an Extension of the Research Period)

1) For KAKENHI (Multi-year Fund) and KAKENHI (Partial Multi-year Fund), **the restrictions on duplicate applications do not apply** to cases where there is, on the one hand, a research project of which the research period has been extended and, on the other hand, a new research project for which the researcher tries to apply, on condition he or she extend the research period in the final fiscal year (except in cases where the researcher obtained maternity leave or childcare leave).
2) However, the restrictions on duplicate applications do apply to cases where there is, on the one hand, a new research project for which the researcher tries to apply and, on the other hand, another research project for which the same Principal Investigator applies (including continued research projects).

Attached Table 1　Table of Restrictions on Duplication

1－1) Type “Principal Investigator (New/Continued) (Section A) ⟶ Principal Investigator (Section B)”

This table shows the restrictions on duplication in case of "a person who tries to apply as Principal Investigator for a research project mentioned in section A (research categories for which JSPS organizes a call for proposals), or a person who has already become Principal Investigator of a research project that is scheduled to be continued in FY2017 (continued research project) mentioned in section A" applies as Principal Investigator for mentioned in section B.

Section A \ Section B			Specially Promoted Research	Scientific Research (S)	Scientific Research (A)		Scientific Research (B)			Scientific Research ©		Grant-in-Aid for Young Scientists(A)	Grant-in-Aid for Young Scientists(B)	Scientific Research on Priority Areas			Challenging Research	
					General	Overseas Academic Research	General	Overseas Academic Research	Generative Research Fields	General	Generative Research Fields			Summarizing group※	Planned research	Publicly invited research	Pioneering	Exploratory
			New	New	New	New	New	New	New	New	New	New	New	New	New	New	New	New
			PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI
Specially Promoted Research		**New**	**PI**	–	■	■	■	■	■	■	■	■	■	■	×	■	■	■	■
		Continued	**PI**	–	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Scientific Research (S)		**New**	**PI**	□	–	■	■	×	×	■	×	■	×	×	□				
		Continued	**PI**	□	–	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲				
Scientific Research (A)	**General**	**New**	**PI**	□	□	–	★	×	★		×		×	×					
		Continued	**PI**	□	▲	–	★	▲	★		▲		▲	▲					
	Overseas Academic Research	**New**	**PI**	□	□	★	–	★	×		★		×	×					
		Continued	**PI**	□	▲	★	–	★	▲		★		▲	▲					
Scientific Research (B)	**General**	**New**	**PI**	□	×	×	★	–	★		×		×	×				×	
		Continued	**PI**	□	▲	▲	★	–	★		▲		▲	▲				▲	
	Overseas Academic Research	**New**	**PI**	□	×	★	×	★	–		★		×	×				×	
		Continued	**PI**	□	▲	★	▲	★	–		★		▲	▲				▲	
	Generative Research Fields	**New**	**PI**	□	□					–		–			□	□		×	×
		Continued	**PI**	□	□					–		–			□	□		▲	▲
Scientific Research (C)	**General**	**New**	**PI**	□	×	×	★	×	★		–		×	×				×	×
		Continued	**PI**	□	▲	▲	★	▲	★		–		▲	▲				▲	▲
	Generative Research Fields	**New**	**PI**	□	□					–		–			□	□		×	×
		Continued	**PI**	□	□					–		–			□	□		▲	▲
Grant-in-Aid for Young Scientists(A)		**New**	**PI**	□	×	×	×	×	×		×		–	×				×	
		Continued	**PI**	□	▲	▲	▲	▲	▲		▲		–	▲				▲	
Grant-in-Aid for Young Scientists(B)		**New**	**PI**	□	×	×	×	×	×		×		×	–				×	×
		Continued	**PI**	□	▲	▲	▲	▲	▲		▲		▲	–				▲	▲
Challenging Research(Pioneering)		**New**	**PI**	□				×	×	×	×	×	×	×	×	×	×	–	–
		Continued	**PI**	□				▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	–	–
Challenging Research(Exploratory)		**New**	**PI**	□						×	×	×		×				–	–
		Continued	**PI**	□						▲	▲	▲		▲				–	–
Challenging Exploratory Research		**Continued**	**PI**	□							▲			▲				▲	▲
Grant-in-Aid for Research Activity Start-up		**Continued**	**PI**	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
JSPS Fellows (JSPS Research Fellow)		**Continued**	**PI**	▲	▲	▲	▲								▲	▲		▲	

※The "International Group" has the same restrictions on duplications as the "Summarizing Group"

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

－:A researcher can only apply for one research project in one and the same research category (screening division) (In case he or she has a continued research project mentioned in section A, he or she cannot apply for a research project mentioned in section B)

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

▲:The researcher cannot apply for a research project mentioned in section B (He or she only implements the research of a continued research project mentioned in section 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 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.

★:As a rule duplicate applications are not accepted. (This does not apply to cases where it is necessary to conduct two clearly different research projects within the same fiscal year.)

1－2) Type “Principal Investigator (New/Continued) (Section A) ⟶ Principal Investigator (Section B)”

This table shows the restrictions on duplication in case of "a person who tries to apply as Principal Investigator for a research project mentioned in section A (research categories for which MEXT organizes a call for proposals), or a person who has already become Principal Investigator of a research project that is scheduled to be continued in FY2017 (continued research project) mentioned in section A" applies as Principal Investigator for mentioned in section B.

Section A				Section B: Specially Promoted Research	Scientific Research (S)	Scientific Research (A)		Scientific Research (B)			Scientific Research (C)		Grant-in-Aid for Young Scientists(A)	Grant-in-Aid for Young Scientists(B)	Challenging Research	
						General	Overseas Academic Research	General	Overseas Academic Research	Generative Research Fields	General	Generative Research Fields			Pioneering	Exploratory
				New	New	New	New	New	New	New	New	New	New	New	New	New
				PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI
Scientific Research on Innovative Areas (Research in a proposed research area)	Summarizing group※	New	PI	×	■					■		■			×	
		Continued	PI	▲	▲					▲		▲			▲	
	Planned research	New	PI	□						■		■			×	
		Continued	PI	□						▲		▲			▲	
	Publicly invited research	New	PI	□											×	
		Continued	PI	□											▲	

※The "International Group" has the same restrictions on duplications as the "Summarizing Group"

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 section A, he or she cannot apply for a research project mentioned in section B).

▲:The researcher cannot apply for a research project mentioned in section B (He or she only implements the research of a continued research project mentioned in section 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 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.

2－1) Type “Principal Investigator (New/Continued) (Section A) ⟶ Co-Investigator (kenkyū-buntansha) (Section B)”

This table shows the restrictions on duplication in case of "a person who tries to apply as Principal Investigator for a research project mentioned in section A (research categories for which JSPS organizes a call for proposals), or a person who has already become Principal Investigator of a research project that is scheduled to be continued in FY2017 (continued research project) mentioned in section A" participates in a research project mentioned in section B as Co-Investigator (*kenkyū-buntansha*).

Section A \ Section B				Specially Promoted Research	Scientific Research (S)	Scientific Research (A)		Scientific Research (B)			Scientific Research (C)		Challenging Research		Scientific Research on Innovative Areas / Research in a proposed research area
						General	Overseas Academic Research	General	Overseas Academic Research	Generative Research Fields	General	Generative Research Fields	Pioneering	Exploratory	Planned research
				New	New	New	New	New	New	New	New	New	New	New	New
				Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (kenkyu-buntansha)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)
Specially Promoted Research		**New**	**PI**	×	■	■	■	■	■	■	■	■	■	■	■
		Continued	**PI**	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Scientific Research (S)		**New**	**PI**												
		Continued	**PI**												
Scientific Research (A)	**General**	**New**	**PI**												
		Continued	**PI**												
	Overseas Academic Research	**New**	**PI**												
		Continued	**PI**												
Scientific Research (B)	**General**	**New**	**PI**												
		Continued	**PI**												
	Overseas Academic Research	**New**	**PI**												
		Continued	**PI**												
	Generative Research Fields	**New**	**PI**												
		Continued	**PI**												
Scientific Research (C)	**General**	**New**	**PI**												
		Continued	**PI**												
	Generative Research Fields	**New**	**PI**												
		Continued	**PI**												
Grant-in-Aid for Young Scientists(A)		**New**	**PI**												
		Continued	**PI**												
Grant-in-Aid for Young Scientists(B)		**New**	**PI**												
		Continued	**PI**												
Challenging Research(Pioneering)		**New**	**PI**												
		Continued	**PI**												
Challenging Research(Exploratory)		**New**	**PI**												
		Continued	**PI**												
Challenging Exploratory Research		**Continued**	**PI**												
Grant-in-Aid for Research Activity Start-up		**Continued**	**PI**												
JSPS Fellows (JSPS Research Fellow)		**Continued**	**PI**												

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 section A, he or she cannot apply for a research project mentioned in section B).

▲:The researcher cannot apply for a research project mentioned in section B (He or she only implements the research of a continued research project mentioned in section 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 A.

2－2) Type “Principal Investigator (New/Continued) (Section A) ⟶ Co-Investigator (kenkyū-buntansha)(Section B)”

This table shows the restrictions on duplication in case of "a person who tries to apply as Principal Investigator for a research project mentioned in section A (research categories for which MEXT organizes a call for proposals), or a person who has already become Principal Investigator of a research project that is scheduled to be continued in FY2017 (continued research project) mentioned in section A" participates in a research project mentioned in section B as Co-Investigator (*kenkyū-buntansha*).

Section A \ Section B				Specially Promoted Research	Scientific Research (S)	Scientific Research (A)		Scientific Research (B)			Scientific Research (C)		Challenging Research	
						General	Overseas Academic Research	General	Overseas Academic Research	Generative Research Fields	General	Generative Research Fields	Pioneering	Exploratory
				New	New	New	New	New	New	New	New	New	New	New
				Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)	Co-I (*kenkyu-buntansha*)
Scientific Research on Innovative Areas (Research in a proposed research area)	**Summarizing group※**	**New**	**PI**	×										
		Continued	**PI**	▲										
	Planned research	**New**	**PI**											
		Continued	**PI**											
	Publicly invited research	**New**	**PI**											
		Continued	**PI**											

※The "International Group" has the same restrictions on duplications as the "Summarizing Group"

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 section A, he or she cannot apply for a research project mentioned in section B).

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

3－1) Type “Co-Investigator (kenkyū-buntansha) (New/Continued) (Section A) ⟶ Principal Investigator (Section B)”

This table shows the restrictions on duplication in case of "a person who tries to participate as Co-Investigator (*kenkyū-buntansha*) in a research project mentioned in section A (research categories for which JSPS organizes a call for proposals), or a person who has already become Co-Investigator (*kenkyū-buntansha*) of a research project that is scheduled to be continued in FY2017(continued research project) mentioned in section A" applies as Principal Investigator for mentioned in section B.

Section A \ Section B			Specially Promoted Research	Scientific Research (S)	Scientific Research (A)		Scientific Research (B)			Scientific Research (C)		Grant-in-Aid for Young Scientists(A)	Grant-in-Aid for Young Scientists(B)	Challenging Research		JSPS Fellows (JSPS Research Fellow)	Scientific Research on Priority Areas		
					General	Overseas Academic Research	General	Overseas Academic Research	Generative Research Fields	General	Generative Research Fields			Pioneering	Exploratory		Research in a proposed research area		
																	Summarizing Group※	Planned research	Publicly invited research
			New	New	New	New	New	New	New	New	New	New	New	New	New	New	New	New	New
			PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI
Specially Promoted Research		**New**	**Co-I (*kenkyu-buntansha*)**	×													×		
		Continued	**Co-I (*kenkyu-buntansha*)**	▲													▲		
Scientific Research (S)		**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
Scientific Research (A)	**General**	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
	Overseas Academic Research	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
Scientific Research (B)	**General**	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
	Overseas Academic Research	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
	Generative Research Fields	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
Scientific Research (C)	**General**	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
	Generative Research Fields	**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
Challenging Research(Pioneering)		**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
Challenging Research(Exploratory)		**New**	**Co-I (*kenkyu-buntansha*)**	□															
		Continued	**Co-I (*kenkyu-buntansha*)**	□															
Challenging Exploratory Research		**Continued**	**Co-I (*kenkyu-buntansha*)**	□															

※The "International Group" has the same restrictions on duplications as the "Summarizing Group"

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 section A, he or she cannot apply for a research project mentioned in section B).

▲:The researcher cannot apply for a research project mentioned in section B (He or she only implements the research of a continued research project mentioned in section 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.

3－2) Type “Co-Investigator (kenkyū-buntansha) (New/Continued) (Section A) ⟶ Principal Investigator (Section B)”

This table shows the restrictions on duplication in case of "a person who tries to participate as Co-Investigator (*kenkyū-buntansha*) in a research project mentioned in section A (research categories for which MEXT organizes a call for proposals), or a person who has already become Co-Investigator (*kenkyū-buntansha*) of a research project that is scheduled to be continued in FY2017 (continued research project) mentioned in section A" applies as Principal Investigator for mentioned in section B.

Section A				Section B	Specially Promoted Research	Scientific Research (S)	Scientific Research (A)		Scientific Research (B)			Scientific Research (C)		Grant-in-Aid for Young Scientists(A)	Grant-in-Aid for Young Scientists(B)	Challenging Research		JSPS Fellows (JSPS Research Fellow)
							General	Overseas Academic Research	General	Overseas Academic Research	Generative Research Fields	General	Generative Research Fields			Pioneering	Exploratory	
					New	New	New	New	New	New	New	New	New	New	New	New	New	New
					PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI	PI
Scientific Research on Innovative Areas (Research in a proposed research area)	**Planned research**	**New**	**Co-I (*kenkyu-buntansha*)**		☐													
		Continued	**Co-I (*kenkyu-buntansha*)**		☐													

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

☐: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. Preparing the Application (Proposal for Grant-in-Aid) and Submitting the Application (Proposal for Grant-in-Aid)

The document necessary for the application is the Proposal for Grant-in-Aid. The Proposal for Grant-in-Aid consists of two parts: the Application Information (Items to be filled in on the form on the website), which is the first part, and the Project Description File (Items to be entered in the attached file), which is the second part.

The Principal Investigator should prepare the Proposal for Grant-in-Aid (PDF file) by entering the application information (Items to be filled in on the form on the website), and by uploading the separately prepared Project Description File (Items to be entered in the attached file) to the Electronic Application System. Then he or she should submit (send) the Proposal for Grant-in-Aid to the research institution he or she belongs to, by the deadline set by the research institution.

Details on the preparation of the Proposal for Grant-in-Aid and the way how to apply are as follows. The applicant should verify this information.

(1) Preparing the Proposal for Grant-in-Aid

When applying, **the applicant should access the Electronic Application System using the e-Rad ID and Password and prepare the Proposal for Grant-in-Aid.**

On the Proposal for Grant-in-Aid

A proposal for grant-in-aid consists of the following two parts:

First part: Enter **the application information (to be entered in the website)** (*1) in the electronic application system.

(*1) Information to be entered by the Principal Investigator in the website via the electronic application system includes the title of proposed project, basic data on the proposed project, like the budget for which the application is made, basic data on the project members, etc.

Second part: Download **the project description file** (*2) from the section "Grants-in-Aid for Scientific Research - KAKENHI" of the JSPS website (http://www.jsps.go.jp/j-grantsinaid/index.html), and prepare the proposal for grant-in-aid (PDF file) by uploading it to the "electronic application system". **(Paper-based applications will not be accepted.)**

(*2) Details on the research project including the purpose of the research, the research plan and research methods should be entered.

<table>
<tr><td rowspan="3">Research category</td><td colspan="2">Proposal for Grant-in-Aid</td></tr>
<tr><td>First part</td><td>Second part</td></tr>
<tr><td>Application information (to be entered in the website)</td><td>Project Description File</td></tr>
<tr><td>Specially Promoted Research (New)</td><td rowspan="18">To be entered in the electronic application system</td><td>S-1-1 (1)
S-1-1 (2)</td></tr>
<tr><td>Specially Promoted Research (Continued)</td><td>S-1-2</td></tr>
<tr><td>Scientific Research (S)</td><td>S-1-6</td></tr>
<tr><td>Scientific Research (A) Research related to the screening panel for “General”</td><td>S-1-7</td></tr>
<tr><td>Research related to the screening panel for “Overseas Academic Research”</td><td>S-1-9</td></tr>
<tr><td>Scientific Research (B) Research related to the screening panel for “General”</td><td>S-1-7</td></tr>
<tr><td>Research related to the screening panel for “Overseas Academic Research”</td><td>S-1-9</td></tr>
<tr><td>Research related to the screening panel for “Generative Research Fields”</td><td>T-1-1</td></tr>
<tr><td>Scientific Research (C) Research related to the screening panel for “General”</td><td>S-1-8</td></tr>
<tr><td>Research related to the screening panel for “Generative Research Fields”</td><td>T-1-2</td></tr>
<tr><td>Challenging Research （Pioneering）</td><td>S-1-26</td></tr>
<tr><td>Challenging Research （Exploratory）</td><td>S-1-27</td></tr>
<tr><td>Grant-in-Aid for Young Scientists (A)</td><td>S-1-12</td></tr>
<tr><td>Grant-in-Aid for Young Scientists (B)</td><td>S-1-13</td></tr>
<tr><td>Continued Research Project (in the case of a major change in the research project)</td><td>S-1-14</td></tr>
</table>

※ The form for the Project Description File (Items to be entered in the attached file) can be downloaded from the section “Grants-in-Aid for Scientific Research - KAKENHI” of the JSPS website (URL:http://www.jsps.go.jp/j-grantsinaid/index.html) even before the obtaining of the e-Rad ID and password.

(2) Application via the Electronic Application System

1) For "Specially Promoted Research", researchers who apply as Principal Investigators should prepare the Proposal for Grant-in-Aid (PDF file) by entering the Application Information (Items to be filled in on the form on the website), and by uploading the separately prepared Project Description File (Items to be entered in the attached file) to the Electronic Application System, based on the "Procedures for Preparing and Entering a Proposal for Grant-in-Aid for Specially Promoted Research (New/Continued)".

2) For the other research categories, they should prepare the Proposal for Grant-in-Aid (PDF file) by entering the Application Information (Items to be filled in on the form on the website), based on the "FY2017 Procedures for Preparing and Entering Application Information (to be entered in the Website) (Scientific Research (S/A/B/C), Challenging Research（Pioneering/ Exploratory）, and Grant-in-Aid for Young Scientists (A/B))", and by uploading the separately prepared Project Description File (Items to be entered in the attached file) to the Electronic Application System, based on the "Procedures for Preparing and Entering a Proposal for Grant-in-Aid" for the specific research category (screening division) they are applying for.

3) A copy of the proposal for grant-in-aid **in black-and-white (gray scale) print** is sent to the screening committee. Therefore, when preparing the proposal for grant-in-aid, the applicant should pay attention not to make a version of which the content becomes unclear when copied.

4) The research institution to which the Principal Investigator belongs collects and submits the Proposals for Grant-in-Aid.
Therefore, Principal Investigators **should submit (send) their application forms to the research institution to which they belong by the deadline set by the research institution in question. (It is not possible to submit (send) the application forms directly to JSPS.)**
Moreover, when submitting (sending) the forms, applicants should sufficiently verify the contents of the Proposal for Grant-in-Aid (PDF file) that they prepared, and subsequently perform the "check completed and submission" process. (This means that they should submit the Proposal for Grant-in-Aid (PDF file) to the research institution to which they belong.) Furthermore, it is not possible to make corrections or other modifications to the Proposal for Grant-in-Aid (PDF file) for which the research institution has already performed the "approval" process.

5) The personal information included in the Proposal for Grant-in-Aid will be used to eliminate unreasonable reduplication and excessive concentration of competitive funds and to carry out service on KAKENHI. (This also includes offering personal information to external private enterprises in charge of electronic processing and management of the data.) The personal information included in the application forms will also be provided to the e-Rad. (It may happen that information will be supplied to the Cabinet Office through e-Rad. Moreover, the applicant

may be requested to cooperate in various kinds of work, the verification of information and other matters, in order to prepare this information.)

Moreover, information concerning adopted research projects (title of proposed project, name of the Principal Investigator, amount planned to be provided, etc.) is considered to be "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 Independent Administrative Agencies" (Act No. 140 of 2001). This information will be disclosed through press release materials, the database of Grants-in-Aid for Scientific Research (KAKEN) of the National Institute of Informatics, and other means.

Information like professional affiliation, name, etc. of the Principal Investigator of the selected research project will be entered in the database of JSPS screening committee candidates, as the need arises. A request for updating the database will be made annually through the research institution to which the Principal Investigators belong (planned for April).

Issues that Need to Be Considered When Preparing the Proposal for Grant-in-Aid

When preparing the Proposal for Grant-in-Aid, the applicant should check the following points and verify whether there no flaws in the content.

1. Whether or not it is an Ineligible Research Project

The following research projects are not eligible:

A) Research projects which merely aim at purchasing ready-made research equipment.
B) Research projects which aim at producing large-size research equipment and similar things which should be funded by other budgets.
C) Research projects which directly aim at developing and selling goods and services (including market trend surveys on the development and sale of goods and services).
D) Funded research which is carried out as commercial business.
E) Research projects with a budget of **less than 100,000 yen** in any of the fiscal years of the research period.

2. Whether the following requirements are met for the Project Members

When necessary, the Principal Investigator (See page 47 1)) can set up a team of project members members together with a Co-Investigator (*kenkyū-buntansha*) (See page 48 2)), a Co-Investigator Co-Investigator (*renkei-kenkyūsha*) (See page 49 3)), and/or a Research Collaborator (See page 49 4)), according to the nature of the research project.

Moreover, **regarding the Co-Investigator (*kenkyū-buntansha*) and the Co-Investigator (*renkei-kenkyūsha*), like in the case of the Principal Investigator, the research institution (See [Note] in the following) needs to verify whether, at the time of the application, the following requirements are met.**

However, Research Collaborators do not necessarily need to be registered in e-Rad.

(Note 1) If JSPS Research Fellows (SPD, PD or RPD) meet the following application requirements in their research institutions which they register as their host research institution, they can also participate in research projects as Co-Investigators (kenkyū-buntansha) or Co-Investigators (renkei-kenkyūsha). In such cases, there are no restrictions on the research categories in which they can participate.

(Note 2) JSPS Research Fellows (DC), Foreign JSPS Fellows and students, such as, for example, graduate students cannot become Principal Investigators. They can neither become Co-Investigators (*kenkyū-buntansha*) and Co-Investigators (*renkei-kenkyūsha*).

Requirements

1) **The researcher should belong to the research institution as a person who has *inter alia* the duty to perform research activities within the research institution in question** (irrespective of whether the work is paid or unpaid, full-time of part-time. Moreover, it is not necessary for the researcher to perform these research activities as such as his or her main duty.)

2) **The researcher should actually be engaged in research activities at the research institution in question** (This does not apply to cases where he or she is only engaged as a research assistant.)

3) **The researcher is not a graduate student or any other category of student** (However, this does not apply to persons who have a position consisting of conducting research activities in the research institution to which they belong, as their main work (e.g., university teaching staff, researchers from companies, etc.), and who also have a student status.)

Note: Research institutions as prescribed in Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research (announced by the Ministry of Education)

(References) Requirements that need to be met by the research institution(see page 106)

Requirements

- If a KAKENHI is given, the research activity should be conducted as an activity of the research institution in question.
- If a KAKENHI is given, the research institution should carry out the management of the KAKENHI.

Research grant employees, as a rule, need to concentrate on their employment related work according to their employment contracts. Therefore, considering the working hours they need to allot to the employment related work, they cannot apply for Grants-in-Aid for Scientific Research themselves.

However, if they provide a clear explanation on the time they can spend besides their employment related work, and if during this time they themselves attempt to conduct research using a Grant-in-Aid for Scientific Research, on their own initiative, it is possible for them to apply for Grants-in-Aid for Scientific Research, on condition that the following points have been verified in the research institution. In this case, they can apply as Principal Investigator, and they can also

become Co-Investigator (*kenkyū-buntansha*), Co-Investigator (*renkei-kenkyūsha*), or other project members.

- It has been determined in the employment contract that research grant employees themselves can conduct research on their own initiative, besides the employment related work.
- The employment related work and work devoted to research that they conduct themselves on their own initiative has clearly been divided in the working hours and the effort.
- Time that can be allotted to research which they attempt to conduct themselves on their own initiative has sufficiently been secured, besides the time spent for employment related work.

Principal Investigators and Co-Investigators (*kenkyū-buntansha*) are 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), and it has been decided that, in case they commit inappropriate use of the grants-in-aid or the like, no KAKENHI will be offered, for a fixed period of time.

In addition, it may happen that researchers are treated as indicated below, even if their researcher information has been registered in e-Rad as "Eligible to Apply for Grants-in-Aid for Research".

- If it is judged in the research institution to which researchers belong that it is not appropriate to let them conduct their research activities as activities of the research institution in question, it may happen that the research institution does not recognize the application, and it may happen that the application for funding by these researchers in question is not recognized and that the application for funding of the KAKENHI is rejected.
- No KAKENHI will be funded, if there is a new application for Grants-in-Aid for Scientific Research from researchers who do not submit the report on the research achievements at the end of the research, without any reason, even if their research has been adopted after screening. Moreover, if researchers have failed, without good reason, to submit the scheduled report on the research achievements, then implementation of other Grants-in-Aid for Scientific Research due to be implemented in the same fiscal year will be suspended.

1) Principal Investigator (The applicant)

(A) The Principal Investigator is a member of a funded project and is the researcher who assumes full responsibility for the implementation of the research project (including the summarizing of the research achievements).

Moreover, persons who are expected to become unable to carry out their responsibility as a Principal Investigator, for example due to the loss of their applicant eligibility during the period of research, should avoid becoming a Principal Investigator. (See (Note))

(Note)

The Principal Investigator is the researcher who assumes a full responsibility for the implementation of the research plan and thus plays a central role. Persons who, at the time they apply, are expected to lose their eligibility to apply during the research period due to retirement or other reasons and are therefore thus expected to become unable to carry out the responsibility, are requested not to become a Principal Investigator since the substitutions of Principal Investigators is not accepted.

However, for "Summarizing Group or International Group Research Projects" of "Scientific Research on Innovative Areas (Research in a proposed research area)", it may happen that, after completion of the necessary procedures, replacements of Principal Investigators (or Principal Investigator of Innovative Areas) may be accepted.

(B) **When setting up a team of project members, the Principal Investigator should without fail collect a "Grants-in-Aid for Scientific Research Written Consent of the Co-Investigator (*kenkyū-buntansha*) (for other institution)", in case the Co-Investigator (*kenkyū-buntansha*) in question belongs to a different research institution, or a "Grants-in-Aid for Scientific Research Written Consent of the Co-Investigator (*kenkyū-buntansha*) (for same institution)", in case the Co-Investigator (*kenkyū-buntansha*) belongs to the same institution, and retain it**.

(C) Apart from registration in e-Rad of the information on the researchers as "Eligible to Apply for KAKENHI", it is essential that Principal Investigators are not designated as ineligible for receipt of funding in FY2017, because they committed fraudulent use, fraudulent receipt of grants or fraudulent acts using KAKENHI or other competitive funding.

2) Co-Investigator (*kenkyū-buntansha*)

(A) The Co-Investigator (*kenkyū-buntansha*) is a member of the funded project, and engages in research activity, collaborating with the Principal Investigator in the implementation of the research project and sharing the responsibility for the implementation of the research as a funded project. He or she has to receive a share of the grant-in-aid. (Even when the Co-Investigator (*kenkyū-buntansha*) belongs to the same research institution as the Principal Investigator, he or she should be allotted a share of the expenses.)

Moreover, a person who is expected to become unable to carry out one's responsibility as a Co-Investigator (*kenkyū-buntansha*), for example due to the loss of one's applicant eligibility during the period of research, should avoid becoming a Co-Investigator (*kenkyū-buntansha*).

(B) Apart from registration in e-Rad of the information on the researchers as "Eligible to Apply for KAKENHI", it is essential, in the same manner as for Principal Investigators, that Co-Investigators (*kenkyū-buntansha*) are not designated as ineligible for receipt of funding in FY2017, because they committed fraudulent use, fraudulent receipt of grants or fraudulent acts using KAKENHI or other competitive funding.

3) Co-Investigator (*renkei-kenkyūsha*)

(A) The Co-Investigator (*renkei-kenkyūsha*) is a researcher who participates in the research project as a project member, under the supervision of the Principal Investigator or the Co-Investigator(s) (*kenkyū-buntansha*).

Since the Co-Investigator (*renkei-kenkyūsha*) is not a member of the funded project, he or she cannot receive a share of the KAKENHI, and cannot use subsidies on his/her own initiative.

(B) It is essential that Co-Investigators (*renkei-kenkyūsha*) register the information on the researchers in e-Rad as "Eligible to Apply for KAKENHI", in the same manner as for Principal Investigators and Co-Investigators (*kenkyū-buntansha*).

※ The difference between "Co-Investigator (*kenkyū-buntansha*)" and "Co-Investigator (*renkei-kenkyūsha*)" is a difference related to the positioning in the KAKENHI system. The relative importance of the researchers' relative roles in the research activity is the same.

4) Research Collaborator

(A) A Research Collaborator is somebody who cooperates in the implementation of a research project other than the Principal Investigator, the Co-Investigator (*kenkyū-buntansha*) and the Co-Investigator (*renkei-kenkyūsha*).

(For example, a postdoctoral researcher, a research assistant (RA), a Fellow of the Japan Society for the Promotion of Science (JSPS Research Fellow) (a DC; or a SPD, PD or RPD who does not meet the application requirements in his or her research institution which he or she registers as his or her host research institution), a researcher who belongs to an overseas research institution, a researcher who works for a corporation that is not recognized according to Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research, other persons offering research support, such as technical experts and intellectual property specialists, etc.)

(B) It is not necessary for Research Collaborators to register the information on the researchers in e-Rad as "Eligible to Apply for KAKENHI".

3. Whether the following requirements are met for the Budget

1) Eligible costs (direct costs)

The budget necessary for the implementation of the research plan (including the budget necessary for summarizing the research achievements) is eligible.

* In case of research plans where in any of the fiscal years any of the costs like "equipment", "travel expenses" or "personnel expenditure and remuneration" exceeds 90%, or in the case of research plans with a budget in which expense items under "Miscellaneous" account for a particularly large percentage of the budget in any single fiscal

year, the applicant should write down in the proposal the reasons why these costs in question are necessary for the implantation of the research.

2) Ineligible costs

The following costs are not included in the funding:

A Costs for buildings and other facilities (excluding the costs for minor installations which became necessary because of the introduction of goods that have been purchased by means of direct costs)

B Costs for handling accidents or disasters that occurred during the implementation of funded project

C Personnel expenditure and remuneration for the Principal Investigator or Co-Investigator(s) (*kenkyū-buntansha*)

D Other costs which fall under indirect costs*

* Indirect costs are costs necessary for the management of the research institution and other things that arise during the implementation of the research project (corresponding with 30% of the amount of the direct costs). The costs are used by the research institution.

This time, it is scheduled to set up indirect costs for the research categories for which a call for proposals is organized. However, the Principal Investigator does not need to state those indirect costs in the application documents.

4. When applying, the applicant should select a desired area for screening as follows

1) In the case of an application for "Specially Promoted Research"

When applying, please make sure to select, according to the content of the research project, one desired area for screening from the "Category Humanities and Social Sciences", the "Category Science and Engineering" or the "Category Biological Sciences". Moreover, if you select the "Category Science and Engineering", please select one screening division from the subcategories "Mathematics/Physics", "Chemistry", or "Engineering", which you think is the most closely related to your research project.

2) In case of an application for "Scientific Research" (screening division "General"), and "Grant-in-Aid for Young Scientists (A)"

When applying, please make sure to **select**, according to the content of the research project, **one appropriate research field** from **Attached Table 2 "List of Categories, Areas, Disciplines and Research Fields for FY2017 Grants-in-Aid for Scientific Research"** (hereinafter called "List of Research Fields" ; see pages 53-55), which is a classification table showing the desired areas for screening. In addition, please make sure to **select one keyword which the applicant thinks is the most closely related to the content of his/her research project within the selected research field** from **Attached Table 3 "Appendix Table of Keywords** "Categories, Areas, Disciplines and Research Fields"**"** (hereinafter called "Table of Keywords"; see pages 57-93).

About the "List of Disciplines and Research Fields with a Time Limit" (special cases in "Scientific Research (C)", screening division "General")

In order to react timely to contemporary trends in scientific research, there are "Disciplines and Research Fields with a Time Limit" set occasionally within the screening division "General" for "Scientific Research (C)". These occasional fields are operated flexibly within the confines of the call for proposal period. Applicants may select any one of them as a desired area for screening (cf. p.56), and these field are listed an Attached Table called "List of Research Fields". **The research period for which applications can be made for these fields is 3 to 5 years, regardless of when the call for proposals starts.**

3) In case of an application for "Grant-in-Aid for Young Scientists (B)"

When applying, please make sure to **select**, according to the content of the research project, **one or (if you desire screening in multiple areas for new and merged research plans) two appropriate research fields** from the "List of Research Fields", which is a classification table showing the desired areas for screening. In addition, please make sure to select from the "Table of Keywords" **one keyword which you think is the most closely related to the content of your research project within the selected research field, if you selected one research field**, OR **one keyword for each research field, one by one (i.e. two in total), if you selected two research fields**.

○ Outline of the screening of research plans for which two research fields have been selected

- In the same manner as for research plans for which one research field has been selected, two-stage screening will be carried out.
- During the first stage of the screening, the first-stage screening committee members (judges) for "Grant-in-Aid for Young Scientists (B)" will carry out a document-based screening for each of the two selected research fields.
- During the second stage of the screening, a collegial screening will be carried out, based on the screening results of the first stage, by screening committee members (judges) who are different from the first-stage screening committee members. This collegial screening will take place in committees that are different from the committees that screen the research plans for which one research field has been selected. More specifically, these committees are, first, a committee for each of the four categories (i.e. Comprehensive Fields, Humanities and Social Sciences, Science and Engineering, Biological Sciences) that only screens research plans for which two research fields have been selected and, or, secondly, a committee that screens research plans in which research fields that exceed the four categories have been selected.

4) In case of an application for "Scientific Research" (screening division "Overseas Academic Research")

When applying, please **make sure to select one area** you wish to have screened from the following 18 areas, and one research field which you think is the most closely related to your research project.

	Desired area for screening
Humanities and Social Sciences	1) Humanities A (philosophy, literature, linguistics, the arts) 2) Humanities B (history, archaeology) 3) Humanities C (human geography, cultural anthropology) 4) Humanities D (Geography, Area studies, Environmental science that fall mainly in the Humanities and others which do not fall under Humanities A, B, or C)
	5) Social Sciences A (law, Politics) 6) Social Sciences B (economics, business administration) 7) Social Sciences C (sociology) 8) Social Sciences D (psychology, education)
Science and Engineering	9) Mathematical and physical sciences
	10) Chemistry Environmental science A (Environmental science that is generally in Science and Engineering)
	11) Engineering A (architecture) 12) Engineering B (all Engineering excepting architecture (including Informatics))
Biological Sciences	13) Biology
	14) Agricultural sciences A (plant production and environmental agriculture, agricultural chemistry, forest and forest products science, boundary agriculture) 15)Agricultural sciences B (agricultural science in society and economy, agro-engineering, animal life science, applied aquatic science)
	16) Medicine, dentistry, and pharmacy A (pharmacy, basic medicine, boundary medicine, and society medicine) 17) Medicine, dentistry, and pharmacy B (clinical medicine, dentistry, nursing, and others which do not fall under Medicine, dentistry, and pharmacy A)
	18) Environmental science B (Environmental science that is generally in the Biological Sciences)

Note: Even if the closest related research field is found to be one of those in the "Integrated Disciplines", please select one of the 18 categories as your preferred screening division.

5）In case of an application for "Scientific Research" (screening division "Generative Research Field")

When applying, please make sure to **select one area** in which you wish your proposals to be screened from the nine areas specified in Attached Table 4. The period for which proposals are solicited for these areas is fixed as three years, beginning with the first fiscal year when the area is established. In the first fiscal year of solicitation, the research period for which application proposals can be made is from three to five years, in the second fiscal year from three to four years, and in the third fiscal year three years.

6) When applying for "Challenging Research"

When applying, please compare the contents of your research plan with the "FY 2017 Challenging Research: Preliminary Comprehensive List of Desired Screening Areas" and choose one area you wish to be screened in.

Also, please be aware that due to the fact that this field is broader than usual research fields, the screening will be conducted from multiple perspectives.

Further, this is a preliminary screening category for FY 2017. FY 2018 screenings (call for applications planned in September 2017), will be conducted after official decision.

Attached Table 2　List of Categories, Areas, Disciplines and Research Fields

(1) Grants-in-Aid for Scientific Research FY2017 List of Categories, Areas, Disciplines and Research Fields

In the case of all the research categories (except for screening division “Overseas Academic Research”),the first stage of the screening of the research fields that have the indication “A” , “B” or "C" in the remarks column is carried out in separate groups. The basis for this division in separate groups is the keywords. Make sure to select "A" , "B" or "C" based on the Appendix Table of Keywords “Categories, Areas, Disciplines and Research Fields”, when applying for these research fields.
In the case of “Scientific Research (C)”, screening division “General” ,the first stage of the screening of the research fields that have the symbol “※” is carried out in separate groups. The basis for this division in separate groups is the keywords. Make sure to select a division number from "1" to "5" based on the Appendix Table of Keywords “Categories, Areas, Disciplines and Research Fields”, when applying for these research fields for the research category “Scientific Research (C)”, screening division “General”. Moreover, for research fields that include "A" and "※", make sure to select “A”, and subsequently select a division number “1” or “2”, when applying.
In the case of “Scientific Research (C)”, screening division “General”, research fields carried in the “List of Disciplines and Research Fields with a Time Limit” have been set up as areas for screening, besides the main table.

Category: Integrated Disciplines

Area	Discipline	Research Field	Item Number	Remark
Informatics	Principles of Informatics	Theory of informatics	1001	
		Mathematical informatics	1002	
		Statistical science	1003	
	Computing Technologies	Computer system	1101	
		Software	1102	
		Information network	1103	
		Multimedia database	1104	
		High performance computing	1105	
		Information security	1106	
	Human informatics	Cognitive science	1201	
		Perceptual information processing	1202	
		Human interface and interaction	1203	
		Intelligent informatics	1204	
		Soft computing	1205	
		Intelligent robotics	1206	
		Kansei informatics	1207	
	Frontiers of informatics	Life / Health / Medical informatics	1301	
		Web informatics, Service informatics	1302	A
				B
		Library and information science/ Humanistic social informatics	1303	A
				B
		Learning support system	1304	
		Entertainment and game informatics	1305	
Environmental science	Environmental analyses and evaluation	Environmental dynamic analysis	1401	
		Risk sciences of radiation and chemicals	1402	A
				B
		Environmental impact assessment	1403	
	Environmental conservation	Environmental engineering and reduction of environmental burden	1501	
		Modeling and technologies for environmental conservation and remediation	1502	
		Environmental conscious materials and recycle	1503	
		Environmental risk control and evaluation	1504	
	Sustainable and environmental system development	Environmental and ecological symbiosis	1601	
		Design and evaluation of sustainable and environmental conscious system	1602	
		Environmental policy and social systems	1603	
Complex systems	Design science	Design science	1651	
	Human life science	Home economics/Human life	1701	
		Clothing life/Dwelling life	1702	
		Eating habits	1703	A
				B
				C
	Science education/ Educational technology	Science education	1801	※
		Educational technology	1802	※
	Sociology/History of science and technology	Sociology/History of science and technology	1901	
	Cultural assets study and museology	Cultural assets study and museology	2001	A
				B
	Geography	Geography	2101	
	Social/Safety system science	Social systems engineering/ Safety system	2201	A
				B
		Natural disaster / Disaster prevention science	2202	A
				B
	Biomedical engineering	Biomedical engineering/ Biomaterial science and engineering	2301	A
				B
		Medical systems	2302	
		Medical engineering assessment	2303	
		Rehabilitation science/ Welfare engineering	2304	A※
				B
Complex systems	Health/Sports science	Developmental mechanisms and the body works	2401	A
				B
		Sports science	2402	A※
				B
		Applied health science	2403	A※
				B
	Childhood science	Childhood science (childhood environment science)	2451	
	Biomolecular science	Biomolecular chemistry	2501	
		Chemical biology	2502	
	Brain sciences	Basic / Social brain science	2601	A
				B
		Brain biometrics	2602	

Category: Humanities and Social Sciences

Humanities/ Social sciences	Area studies	Area studies	2701	
	Gender	Gender	2801	
	Tourism Studies	Tourism Studies	2851	
Humanities	Philosophy	Philosophy/Ethics	2901	
		Chinese philosophy/Indian philosophy/Buddhist studies	2902	※
		Religious studies	2903	
		History of thought	2904	
	Art studies	Aesthetics and studies on art	3001	
		Fine art history	3002	
		Art at large	3003	
	Literature	Japanese literature	3101	※
		Literature in English	3102	※
		European literature	3103	※
		Chinese literature	3104	
		Literature in general	3105	
	Linguistics	Linguistics	3201	※
		Japanese linguistics	3202	
		English linguistics	3203	
		Japanese language education	3204	
		Foreign language education	3205	※
	History	Historical studies in general	3301	
		Japanese history	3302	※
		History of Asia and Africa	3303	
		History of Europe and America	3304	
		Archaeology	3305	
	Human geography	Human geography	3401	
	Cultural anthropology	Cultural anthropology	3501	
Social sciences	law	Fundamental law	3601	
		Public law	3602	
		International law	3603	
		Social law	3604	
		Criminal law	3605	
		Civil law	3606	
		New fields of law	3607	
	Politics	Politics	3701	
		International relations	3702	
	Economics	Economic theory	3801	
		Economic doctrine/ Economic thought	3802	
		Economic statistics	3803	
		Economic policy	3804	
		Public finance/Public economy	3805	
		Money/ Finance	3806	
		Economic history	3807	
	Management	Management	3901	※
		Commerce	3902	
		Accounting	3903	
	Sociology	Sociology	4001	※
		Social welfare and social work studies	4002	

(Humanities and Social Sciences)

Area	Discipline	Research Field	Item Number	Remark
Social sciences	Psychology	Social psychology	4101	
		Educational psychology	4102	
		Clinical psychology	4103	
		Experimental psychology	4104	
	Education	Education	4201	※
		Sociology of education	4202	
		Education on school subjects and activities	4203	※
		Special needs education	4204	

Category: Science and Engineering

Interdisciplinary science and engineering	Nano/Micro science	Nanostructural chemistry	4301	
		Nanostructural physics	4302	
		Nanomaterials chemistry	4303	
		Nanomaterials engineering	4304	
		Nanobioscience	4305	
		Nano/Microsystems	4306	
	Applied physics	Applied materials	4401	
		Crystal engineering	4402	
		Thin film/Surface and interfacial physical properties	4403	
		Optical engineering, Photon science	4404	
		Plasma electronics	4405	
		General applied physics	4406	
	Quantum beam science	Quantum beam science	4501	
	Computational science	Computational science	4601	
Mathematical and physical sciences	Mathematics	Algebra	4701	※
		Geometry	4702	※
		Basic analysis	4703	※
		Mathematical analysis	4704	
		Foundations of mathematics/Applied mathematics	4705	※
	Astronomy	Astronomy	4801	
	Physics	Particle/Nuclear/Cosmic ray/Astro physics	4901	※
		Condensed matter physics I	4902	
		Condensed matter physics II	4903	※
		Mathematical physics/ Fundamental condensed matter physics	4904	
		Atomic/Molecular/Quantum electronics	4905	
		Biological physics/Chemical physics/Soft matter physics	4906	
	Earth and planetary science	Solid earth and planetary physics	5001	
		Meteorology/Physical oceanography/Hydrology	5002	
		Space and upper atmospheric physics	5003	
		Geology	5004	
		Stratigraphy/Paleontology	5005	
		Petrology/Mineralogy/ Economic geology	5006	
		Geochemistry/Cosmochemistry	5007	
	Plasma science	Plasma science	5101	
Chemistry	Basic chemistry	Physical chemistry	5201	
		Organic chemistry	5202	
		Inorganic chemistry	5203	
	Applied chemistry	Functional solid state chemistry	5301	
		Synthetic chemistry	5302	
		Polymer chemistry	5303	
		Analytical chemistry	5304	
		Bio-related chemistry	5305	
		Green/Environmental chemistry	5306	
		Energy-related chemistry	5307	
	Materials chemistry	Organic and hybrid materials	5401	
		Polymer/Textile materials	5402	
		Inorganic industrial materials	5403	
		Device related chemistry	5404	
Engineering	Mechanical engineering	Materials/ Mechanics of materials	5501	
		Production engineering/ Processing studies	5502	

Area	Discipline	Research Field	Item Number	Remark
Engineering	Mechanical engineering	Design engineering/ Machine functional elements/ Tribology	5503	
		Fluid engineering	5504	
		Thermal engineering	5505	
		Dynamics/Control	5506	
		Intelligent mechanics/ Mechanical systems	5507	
	Electrical and electronic engineering	Power engineering/Power conversion/Electric machinery	5601	
		Electronic materials/ Electric materials	5602	
		Electron device/ Electronic equipment	5603	
		Communication/ Network engineering	5604	
		Measurement engineering	5605	
		Control engineering/System engineering	5606	
	Civil engineering	Civil engineering materials/ Construction/ Construction management	5701	
		Structural engineering/ Earthquake engineering/ Maintenance management engineering	5702	
		Geotechnical engineering	5703	
		Hydraulic engineering	5704	
		Civil engineering project/ Traffic engineering	5705	
		Civil and environmental engineering	5706	
	Architecture and building engineering	Building structures/Materials	5801	
		Architectural environment/ Equipment	5802	
		Town planning/ Architectural planning	5803	
		Architectural history/Design	5804	
	Material engineering	Physical properties of metals/Metal-base materials	5901	
		Inorganic materials/Physical properties	5902	
		Composite materials/Surface and interface engineering	5903	
		Structural/Functional materials	5904	
		Material processing/Microstructural control engineering	5905	
		Metal making/Resorce production engineering	5906	
	Process/Chemical engineering	Properties in chemical engineering process/Transfer operation/Unit operation	6001	
		Reaction engineering/Process system	6002	
		Catalyst/Resource chemical process	6003	
		Biofunction/Bioprocess	6004	
	Integrated engineering	Aerospace engineering	6101	
		Naval and maritime engineering	6102	
		Earth system and resources engineering	6103	
		Nuclear fusion studies	6104	
		Nuclear engineering	6105	
		Energy engineering	6106	

Category: Biological Sciences

Area	Discipline	Research Field	Item Number	Remark
Biological Sciences	Neuroscience	Neurophysiology / General neuroscience	6201	
		Nerve anatomy/Neuropathology	6202	A
				B
		Neurochemistry/ Neuropharmacology	6203	
	Laboratory animal science	Laboratory animal science	6301	
	Oncology	Tumor biology	6401	A
				B
		Tumor diagnostics	6402	
		Tumor therapeutics	6403	
	Genome science	Genome biology	6501	
		Medical genome science	6502	
		System genome science	6503	
	Conservation of biological resources	Conservation of biological resources	6601	
Biology	Biological Science	Molecular biology	6701	
		Structural biochemistry	6702	
		Functional biochemistry	6703	
		Biophysics	6704	
		Cell biology	6705	
		Developmental biology	6706	
	Basic biology	Plant molecular biology/Plant physiology	6801	
		Morphology/Structure	6802	
		Animal physiology/Animal behavior	6803	
		Genetics/Chromosome dynamics	6804	
		Evolutionary biology	6805	
		Biodiversity/Systematics	6806	
		Ecology/Environment	6807	
	Anthropology	Physical anthropology	6901	
		Applied anthropology	6902	
Agricultural sciences	Plant production and environmental agriculture	Science in genetics and breeding	7001	
		Crop production science	7002	
		Horticultural science	7003	
		Plant protection science	7004	A
				B
	Agricultural chemistry	Plant nutrition/Soil science	7101	
		Applied microbiology	7102	
		Applied biochemistry	7103	
		Bioorganic chemistry	7104	
		Food science	7105	※
	Forest and forest products science	Forest science	7201	
		Wood science	7202	
	Applied aquatic science	Aquatic bioproduction science	7301	A
				B
		Aquatic life science	7302	
	Agricultural science in society and economy	Agricultural science in management and economy	7401	
		Agricultural science in rural society and development	7402	
	Agro-engineering	Rural environmental engineering/Planning	7501	
		Agricultural environmental engineering/Agricultural information engineering	7502	A
				B
	Animal life science	Animal production science	7601	A
				B
		Veterinary medical science	7602	A
				B
		Integrative animal science	7603	A
				B
	Boundary agriculture	Insect science	7701	
		Environmental agriculture(including landscape science)	7702	A
				B
		Applied molecular and cellular biology	7703	
Medicine, dentistry, and pharmacy	Pharmacy	Chemical pharmacy	7801	
		Physical pharmacy	7802	
		Biological pharmacy	7803	
		Pharmacology in pharmacy	7804	
		Natural medicines	7805	
		Drug development chemistry	7806	
		Environmental and hygienic pharmacy	7807	
		Medical pharmacy	7808	※

Area	Discipline	Research Field	Item Number	Remark
Medicine, dentistry, and pharmacy	Basic medicine	General anatomy (including histology/embryology)	7901	※
		General physiology	7902	
		Environmental physiology (including physical medicine and nutritional physiology)	7903	
		General pharmacology	7904	
		General medical chemistry	7905	
		Pathological medical chemistry	7906	
		Human genetics	7907	
		Human pathology	7908	※
		Experimental pathology	7909	※
		Parasitology (including sanitary zoology)	7910	
		Bacteriology (including mycology)	7911	
		Virology	7912	
		Immunology	7913	
	Boundary medicine	Medical sociology	8001	
		Applied pharmacology	8002	
		Laboratory medicine	8003	※
		Pain science	8004	
		Medical Physics and Radiological Technology	8005	
	Society medicine	Epidemiology and preventive medicine	8101	※
		Hygiene and public health	8102	※
		Medical and hospital management	8103	
		Legal medicine	8104	
	Clinical internal medicine	General internal medicine (including psychosomatic medicine)	8201	
		Gastroenterology	8202	※
		Cardiovascular medicine	8203	※
		Respiratory organ internal medicine	8204	※
		Kidney internal medicine	8205	※
		Neurology	8206	※
		Metabolomics	8207	※
		Endocrinology	8208	
		Hematology	8209	※
		Collagenous pathology/ Allergology	8210	※
		Infectious disease medicine	8211	
		Pediatrics	8212	※
		Embryonic/Neonatal medicine	8213	
		Dermatology	8214	※
		Psychiatric science	8215	※
		Radiation science	8216	※
	Clinical surgery	General surgery	8301	※
		Digestive surgery	8302	※
		Cardiovascular surgery	8303	※
		Respiratory surgery	8304	※
		Neurosurgery	8305	※
		Orthopaedic surgery	8306	※
		Anesthesiology	8307	※
		Urology	8308	※
		Obstetrics and gynecology	8309	※
		Otorhinolaryngology	8310	※
		Ophthalmology	8311	※
		Pediatric surgery	8312	
		Plastic surgery	8313	
		Emergency medicine	8314	
	Dentistry	Morphological basic dentistry	8401	
		Functional basic dentistry	8402	
		Pathobiological dentistry/ Dental radiology	8403	
		Conservative dentistry	8404	
		Prosthodontics/ Dental materials science and engineering	8405	※
		Dental engineering/ Regenerative dentistry	8406	
		Surgical dentistry	8407	※
		Orthodontics/Pediatric dentistry	8408	※
		Periodontology	8409	
		Social dentistry	8410	※
	Nursing	Fundamental nursing	8501	※
		Clinical nursing	8502	※
		Lifelong developmental nursing	8503	※
		Gerontological nursing	8504	※
		Community health nursing	8505	※

(2) Grants-in-Aid for Scientific Research FY2017 List of Categories, Areas, Disciplines and Research Fields (separate appendix table)

○ List of Disciplines and Research Fields with a Time Limit

This table, in combination with the main table, “Grants-in-Aid for Scientific Research FY2017 List of Categories, Areas, Disciplines and Research Fields”, applies only to “Scientific Research (C)”, screening division “General”.

The period for which proposals are solicited for these areas is planned to be organized. Regardless of when proposals start to be solicited, the research period for which application proposals can be made is from three to five years.

Area	Detail	Item Number	Proposal Solicitation
Natural Disaster Issues and Humanities/Social Sciences	Large natural disasters, such as the Great East Japan Earthquake, cause immense human loss and material damage, posing various risks to Japanese society. To overcome these risks, research centered on civil engineering and construction is, of course, needed to get a grasp of the damage that can be caused to the physical environment and infrastructure and to devise measures for their restoration and reconstruction. Of concomitant importance is a need to advance systematic research on socio-economic damage and measures for its recovery and reconstruction as well. Required for this purpose are a diversified research approach with cross-disciplinarity, sustained research support, capability to respond to a wide expanse of affected areas and damage regionality, and an enhanced knowledge base for supporting restoration and mitigating damage in the future. To this end, thematic research on “earthquake disaster issues” will need to be advanced across a spectrum of humanities and social sciences fields. In this area, research will need to be undertaken in fields that do not fit neatly within existing research field categories. As research will need to be advanced from new perspective, an opportunity is accorded to systematically establish a new domain oriented to disaster issues within the humanities and social sciences. A strong demand to do this opens up opportunities for research that transcends topic setting within existing fields and enables research advancement and knowledge sharing across fields of the humanities and social sciences in ways that make it possible to gain a full-scope, cross-disciplinary grasp of earthquake damage and restoration.	9055	FY2013 － FY2017

Attached Table 3 Appendix Table of Keywords
"Categories, Areas, Disciplines and Research Fields"

1) These keywords have been added in order to make the content of the research fields easier to understand for applicants. This does not mean that the content that is not included in the keywords will be excluded.

2) In the case of all Research Categories (except for screening division "Overseas Academic Research"), the first stage of the screening of the research fields followed by "A", "B" or "C" in each category of the division column is carried out in separate groups. The basis for this division in groups is the keywords shown on Appendix Table of Keywords "Categories, Areas, Disciplines and Research Fields". Make sure to select "A", "B" or "C" based on the keyword, when applying for these research fields.

3) In the case of "Scientific Research (C), screening division "General", the first stage of the screening of the research fields followed by the numbers "1" to "5" in each category of the division column is carried out in separate groups. The basis for this division in separate groups is the keywords shown on Appendix Table of Keywords "Categories, Areas, Disciplines and Research Fields". Make sure to select a number from "1" to "5" based on the keyword, when applying for these research fields for "Scientific Research (C)", screening division "General".Moreover, for research fields that include "A" and "1" or "2", make sure to select "A", and subsequently select a division number "1" or "2", when applying.

Category: Integrated Disciplines

Area: Informatics

Discipline: Principles of Informatics

Item Number	Research Field		Screening Sub-panel Number / Keyword
1001	Theory of informatics	1	Theory of computation
		2	Automata theory / Formal language theory
		3	Mathematical theory of programs
		4	Computational complexity theory
		5	Algorithm theory
		6	Cryptosystem
		7	Discrete structure
		8	Computational learning theory
		9	Theory of quantum computation
		10	Mathematical logic
		11	Information theory
		12	Coding theory
1002	Mathematical informatics	1	Optimization theory
		2	Mathematical finance
		3	Mathematical system theory
		4	System control theory
		5	System analysis
		6	System methodology
		7	System modeling
		8	System simulation
		9	Combinatorial optimization
		10	Queueing theory
1003	Statistical science	1	Research survey and experimental design
		2	Multivariate analysis
		3	Time series analysis
		4	Statistical pattern recognition
		5	Statistical inference
		6	Computational statistics and computer aided statistics
		7	Statistical prediction and control
		8	Model selection
		9	Pharmaceutical / genome statistical analysis
		10	Behaviormetrics
		11	Spatial / environmental statistics
		12	Statistics education
		13	Statistical quality control
		14	Statistical learning theory
		15	Social research and analysis plan
		16	Data science
		17	Hypothesis testing

Discipline:Computing Technologies

Item Number	Research Field		Screening Sub-panel Number / Keyword
1101	Computer system	1	Computer architecture
		2	Circuit and system
		3	LSI design technology
		4	Reconfigurable system
		5	High-dependable architecture
		6	Low power technology
		7	hardware / software co-design
		8	Embedded system

(Discipline: Principles of Informatics)

Item Number	Research Field		Screening Sub-panel Number / Keyword
1102	Software	1	Programming language
		2	Programming methodology
		3	Programming language processor
		4	Parallel distributed computing
		5	Operating system
		6	High-dependable system
		7	Virtualization technology
		8	Software security
		9	Cloud computing infrastructure
		10	Software engineering
		11	Specification and verification
		12	Development environment
		13	Development management
1103	Information network	1	Network architecture
		2	Network protocol
		3	Internet
		4	Mobile network
		5	Overlay network
		6	Sensor network
		7	Traffic engineering
		8	Network design, operation, management and analysis technology
		9	Ubiquitous computing
		10	Service prosivion infrastructure
		11	Information home appliances
1104	Multimedia database	1	Data model
		2	Relational database
		3	Database system
		4	Multimedia information acquisition
		5	Multimedia information processing
		6	Multimedia information representation
		7	Multimedia information generation
		8	Information retrieval
		9	Structured document
		10	Content distribution and management
		11	Geographic information system
		12	Metadata
		13	Big data analysis and utilization
1105	High performance computing	1	Parallel processing
		2	Distributed processing
		3	Grid and Cloud computing
		4	Numerical analysis
		5	Visualization
		6	Computer graphics
		7	High performance computing application

（Discipline: Principles of Informatics）

Item Number	Research Field		Screening Sub-panel Number / Keyword
1106	Information security	1	Access control
		2	Personal identification
		3	Cryptography
		4	Authentication
		5	Security evaluation / audit
		6	Malware countermeasures
		7	Network security
		8	Unauthorized access countermeasure
		9	Software protection
		10	Privacy protection
		11	Information filtering
		12	Digital forensics
		13	Biometrics
		14	Tamper resistance technology

Discipline: Human informatics

Item Number	Research Field		Screening Sub-panel Number / Keyword
1201	Cognitive science	1	Evolution, development, learning
		2	Cognition, memory, education
		3	Thought, inference, problem solving
		4	Sensation, perception, kansei
		5	Emotion / Feeling / Behavior
		6	Cognitive psychology
		7	Comparative cognitive psychology
		8	Cognitive philosophy
		9	Brain cognitive science
		10	Cognitive linguistics
		11	Comparative decision making theory
		12	Cognitive engineering
		13	Cognitive archaeology
		14	Cognitive model
		15	Sociability
		16	Law and psychology
		17	Safety and human factor
1202	Perceptual information processing	1	Pattern recognition
		2	Image processing
		3	Computer vision
		4	Computational photography
		5	Human measurement
		6	Intelligent image editing
		7	Visual media processing
		8	Image database
		9	Speech processing
		10	Acoustic information processing
		11	Speech / Sound database
		12	Information sensing
		13	Sensor fusion
		14	Sensing devices / systems
		15	Tangible sensing
1203	Human interface and interaction	1	Human interface
		2	Multi-modal interface
		3	Human-computer interaction
		4	CSCW
		5	Groupware
		6	Virtual reality
		7	Augmented Reality
		8	Mixed reality
		9	Realistic communication
		10	Wearable device
		11	Usability
		12	Ergonomics
1204	Intelligent informatics	1	Search, logic, inference algorithms
		2	Machine learning
		3	Knowledge acquisition
		4	Knowledge-based system
		5	Intelligent system architecture
		6	Intelligent information processing
		7	Natural language processing
		8	Knowledge discovery and data mining
		9	Ontology
		10	Human-agent interaction
		11	Multi-agent system

（Discipline: Human informatics）

Item Number	Research Field		Screening Sub-panel Number / Keyword
1205	Soft computing	1	Neural network
		2	Genetic algorithm
		3	Fuzzy theory
		4	Chaos
		5	Fractal
		6	Complex systems
		7	Probabilistic information processing
1206	Intelligent robotics	1	Intelligent robot
		2	Behavior and environment recognition
		3	Motion planning
		4	Sensory behavior system
		5	Autonomous system
		6	Digital human model
		7	Real world information processing
		8	Physical agents
		9	Intelligent roomAnimation
1207	Kansei informatics	1	Kansei design
		2	Kansei expression
		3	Kansei recognition
		4	Kansei cognitive science, Kansei phychology
		5	Kansei robotics
		6	Kansei measurement evaluation
		7	Ambiguity and kansei
		8	Kansei information processing
		9	Kansei database
		10	Kansei interface
		11	Kansei physiology
		12	Kansei material products
		13	Sensitivity industry
		14	Kansei environmental science
		15	Kansei sociology
		16	Kansei philosophy
		17	Kansei pedagogy
		18	Kansei brain science
		19	Kansei management

Discipline: Frontiers of informatics

Item Number	Research Field			Screening Sub-panel Number / Keyword
1301	Life / Health / Medical informatics		1	Bioinformatics
			2	Genome information processing
			3	Proteome information processing
			4	Computer simulation
			5	Life informatics
			6	Biological information
			7	Neuroinformatics
			8	Neural information processing
			9	Artificial life system
			10	Molecular computing
			11	DNA computing
			12	Medical information
			13	Diagnostic imaging
			14	Remote diagnosis and treatment
			15	Sanitation information
			16	Health information
			17	Medical image
			18	Intracellular logistics analysis
1302	Web informatics, Service informatics	A		[Web informatics]
			1	Web system
			2	Web computing
			3	Social web
			4	Semantic web
			5	Recommendation system
			6	Web service
			7	Web mining
			8	Web intelligence
			9	Social network analysis
			10	Netwrok community
		B		[Service informatics]
			11	Service engineering
			12	Service management
			13	Quality of Service
			14	Queue
			15	Business model
			16	Service-oriented architecture
			17	Knowledge management
			18	Educational services
			19	Medical welfare service
			20	Intelligent transport systems
			21	Financial service
			22	Social and environmental service
			23	Smart grid
			24	Management of technology

Item Number	Research Field			Screening Sub-panel Number / Keyword
1303	Library and information science/ Humanistic social informatics	A		[Library and information science]
			1	Library science
			2	Information services
			3	Library information systems
			4	Digital archives
			5	Information organization
			6	Information retrieval
			7	Information media
			8	Bibliometrics and scientometrics
			9	Construction and management of information resources
		B		[Humanistic social informatics]
			10	Information ethics
			11	Media environment
			12	Literature information
			13	Historical information
			14	Information sociology
			15	Law information
			16	Information economics
			17	Management information
			18	Educational information
			19	Art information
			20	Medical information
			21	Science and technology information
			22	Intellectual property information
			23	Geographic information
			24	Local informatization
1304	Learning support system		1	Media Literacy
			2	Learning media
			3	Social media
			4	Learning content development support
			5	Learning management system
			6	Intelligent Learning support system
			7	Remote learning
			8	Distributed collaborative learnig support system
			9	Project-based learning support system
			10	e-Learning
			11	Use and evaluation
1305	Entertainment and game informatics		1	Music information processing
			2	Performance support
			3	3D content and animation
			4	Game programming
			5	Network entertainment
			6	Media art
			7	Interactive art
			8	Digital archives
			9	Digital museum / Virtual museum
			10	Information culture

Area: Environmental science

Discipline: Environmental analyses and evaluation

Item Number	Research Field			Screening Sub-panel Number / Keyword
1401	Environmental dynamic analysis		1	Environmental change
			2	Biogeochemical cycle
			3	Environmental measurements
			4	Environmental model
			5	Environmental information
			6	Global warming
			7	Global change of water cycle
			8	Environmental monitoring of the polar regions
			9	Chemical oceanography
			10	Biological oceanography
			11	Remote sensing
1402	Risk sciences of radiation and chemicals	A	1	Environmental radiation
			2	Protection
			3	Basic process
			4	Dosimetry and assessment
			5	Damage
			6	Response
			7	Repair
			8	Sensitivity
			9	Impact on life
			10	Risk assessment
			11	Radiation management and control
		B	12	Toxicology
			13	Toxic substance to human
			14	Estimation of trace chemicals pollution
			15	Endocrine disrupting substances
1403	Environmental impact assessment		1	Terrestrial, aquatic, and atmospheric impact assessment
			2	Impact assessment on ecosystem
			3	Impact assessment methods
			4	Impact assessment on human health
			5	Environmental impact assessment on the future generation
			6	Human activities in polar regions
			7	Environmental monitoring
			8	Model simulation
			9	Environmental impact assessment

Discipline: Environmental conservation

Item Number	Research Field		Screening Sub-panel Number / Keyword
1501	Environmental engineering and reduction of environmental burden	1	Reduction of wastewater, exhaust gas and solid wastes
		2	Appropriate treatment and disposal
		3	Closed process and integrated pollution control
		4	Pollutants separation and removal technologies
		5	Control of noise, vibration and ground subsidence
		6	Environmental analysis
		7	Simplified analysis and monitoring
1502	Modeling and technologies for environmental conservation and remediation	1	Environmental impact analysis
		2	Environmental pollution survey and evaluation
		3	Pollutants removal and remediation technologies
		4	Monitoring and modeling of pollutants behavior in environment
		5	Biological treatment and remediation
		6	Impact on environment and ecosystem
		7	Surface water, ground water and soil

（Discipline: Environmental conservation）

Item Number	Research Field		Screening Sub-panel Number / Keyword
1503	Environmental conscious materials and recycle	1	Design and production of recycle materials
		2	Reduction, reuse, recycle (3R)
		3	Recovery of valuables
		4	Separation and purification
		5	Appropriate treatment and disposal
		6	Recycling and life cycle assessment(LCA)
		7	Environmental conscious design
		8	Green productions
		9	Zero-emission
		10	Chemistry for material recycle
1504	Environmental risk control and evaluation	1	Identification and analytical evaluation of pollutants
		2	Monitoring
		3	Transport, diffusion and accumulation of pollutants
		4	Environmental criteria and standards
		5	Life environment and health items
		6	Emission quality standards
		7	Evaluation of cross-border pollution
		8	Chemicals management
		9	Exposure scenario
		10	Risk evaluation
		11	Precautionaly principle
		12	Biodegradation and bioaccumulation
		13	Genetic and ecological toxicities
		14	Risk communication

Discipline: Sustainable and environmental system development

Item Number	Research Field		Screening Sub-panel Number / Keyword
1601	Environmental and ecological symbiosis	1	Biodiversity
		2	Ecosystem functions and services
		3	Ecological risks
		4	Ecosystem impact analysis
		5	Ecosystem management and conservation
		6	Remote sensing
		7	Landscape and ecosystem
		8	Rehabilitation of environment ecosystem
		9	Mitigation
		10	Ecological engineering
1602	Design and evaluation of sustainable and environmental conscious system	1	Sound material recycle system
		2	Low carbon society
		3	Renewable energy
		4	Biomass utilization
		5	Design and planning of environmental conscious areas
		6	Water resources and water use system
		7	Industrial symbiosis
		8	Material and energy flow analysis
		9	Life cycle assessment (LCA)
		10	Integrated pollution prevention and control

（Discipline: Sustainable and environmental system development）

Item Number	Research Field	Screening Sub-panel Number	Keyword
1603	Environmental policy and social systems	1	Environmental philosophy and ethics
		2	Environmental justice
		3	Environmental economics
		4	Environmental laws
		5	Environmental information
		6	Environmental geographical information
		7	Environmental education
		8	Environmental management
		9	Environment and social activities
		10	Environmental standard and auditing
		11	Consensus forming
		12	Environmental safety and security
		13	Corporate social responsibility
		14	Social and economical system
		15	Public system and management
		16	Sustainable development

Area: Complex systems

Discipline: Design science

Item Number	Research Field	Screening Sub-panel Number	Keyword
1651	Design science	1	Information design(Communication, media, contents, interaction, interface)
		2	Environmental design (Architecture, Urban, Landscape)
		3	Industrial design (Product design, universal design)
		4	Art
		5	Aesthetics
		6	Design history
		7	Theory for design
		8	Design standard
		9	Design support
		10	3D modeling & acoustic modeling
		11	Analysis & evaluation for design
		12	Design education

Discipline: Human life science

Item Number	Research Field	Screening Sub-panel Number	Keyword
1701	Home economics/ Human life	1	Family resource management
		2	Family finance and consumer issues
		3	Family
		4	Lifestyle
		5	Information for living
		6	Human life and culture
		7	Life of the elderly
		8	Well-being for individual and family
		9	Child care, Child rearing
		10	Home economics education
		11	Consumer education
		12	Philosophy of home economics
		13	Materials and goods for living
		14	Design for living
		15	Manufacturing , Skills of making products for daily life
1702	Clothing life/Dwelling life	1	Human life and clothing
		2	Clothing and environment
		3	Dyeing and finishing treatment
		4	Clothing design and manufacturing
		5	Clothing materials
		6	History of costume
		7	Clothing culture
		8	Clothing psychology
		9	Dwelling life
		10	Planning of housing
		11	Housing management
		12	Housing history
		13	Interior, housing and living environment design
		14	Dwelling environment and equipment
		15	Housing structure and material
		16	City planning and community policy
		17	Child-raising environment
		18	Housing for the elderly
		19	Housing environment for the elderly and people with disabilities
		20	Dwelling culture
		21	Housing information and housing education

（Discipline: Human life science）

Item Number	Research Field	Screening Sub-panel Number / Keyword		
1703	Eating habits	A		[Food and cooking]
			1	Cooking and processing
			2	Food storage
			3	Sensory evaluation
			4	Food materials
			5	Cooking and functional constituent
			6	Food service
			7	Food culture
			8	Texture
			9	Mastication and swallowing
		B		[Integrated Nutrition Science]
			10	Foods and Nutrition
			11	Functional Foods
			12	Molecular Metabolism
			13	Nutritional Epidemiology
			14	Clinical Nutrition
		C		[Diet and health]
			15	Dietary education
			16	Dietary habits
			17	Dietary behavior
			18	Dietary information
			19	Food with health claims
			20	Food and environment
			21	Diet evaluation
			22	Food management

Discipline: Science education/Educational technology

Item Number	Research Field	Screening Sub-panel Number / Keyword		
1801	Science education	1	1	Higher education(Mathematics, Physics, Chemistry, Biology, Information science, Astronomy, Earth and planetary science, Interdisciplinary science)
			2	Elementary and secondary education(Arithmetic・Mathematics, Natural science, Information science)
			3	Engineering education
		2	4	Science literacy
			5	Experiment/Observation
			6	Science education curriculum
			7	Environmental education
			8	Industrial technology education
			9	Science and sociocultural aspect
			10	Science teacher training
			11	Science communication
			12	Information literacy
1802	Educational technology	1	1	Curriculum/Pedagogy development
			2	Teaching-learning support systems
			3	Distributed collaborative learning system
			4	Human interface
		2	5	Instructional materials information system
			6	Utilization of media
			7	Distance education
			8	E-learning
			9	Information-related education
			10	Media education
			11	Learning environment
			12	Teacher's education
			13	Classroom instruction

Discipline: Sociology/History of science and technology

Item Number	Research Field	Screening Sub-panel Number / Keyword	
1901	Sociology/ History of science and technology	1	Sociology of science
		2	History of science
		3	History of technology
		4	Medical history
		5	Industrial archaeology
		6	Philosophy of science/Theory of science
		7	Science, technology and society

Discipline: Cultural assets study and museology

Item Number	Research Field	Screening Sub-panel Number / Keyword		
2001	Cultural assets study and museology	A	1	Dating methods
			2	Material analysis
			3	Production techniques
			4	Conservation science
			5	Archaeological prospection
			6	Plant and animal residues/Human remains
			7	Cultural property/Cultural heritage
			8	Cultural resources
			9	Cultural property policy
		B	10	Museum Informatics
			11	Museum Education, Museum Pedagogy
			12	Museum Information Systems, Museum Informatics
			13	Museum Business Management
			14	Public Finance and Administration of Museums
			15	Museum Material Resources
			16	History of Museology

Discipline: Geography

Item Number	Research Field	Screening Sub-panel Number / Keyword	
2101	Geography	1	Geography in general
		2	Land use/Landscape
		3	Environmental system
		4	Regional planning
		5	Cartography/Regional geography/Geography education
		6	Geomorphology
		7	Climatology
		8	Hydrology
		9	Geographic information system
		10	Remote sensing
		11	Vegetation/Soil
		12	Tourism

Discipline: Social/Safety system science

Item Number	Research Field	Screening Sub-panel Number / Keyword		
2201	Social systems engineering/ Safety system	A		[Social systems engineering]
			1	Social engineering
			2	Social system
			3	Policy science
			4	Development planning
			5	Management engineering
			6	Management system
			7	Operations research
			8	Quality control
			9	Industrial engineering
			10	Modeling
			11	Logistics
			12	Marketing
			13	Finance
			14	Project management
			15	Environmental management
		B		[Safety system]
			16	Safety engineering/Safety science
			17	Safety concerning products, facilities, systems
			18	Safety risk management
			19	Crisis management
			20	Fire and explosion prevention and protection
			21	Safety information
			22	Social technology for security (evacuation、mass guidance、information distribution、hazard map)
			23	Risk-based engineering
			24	Engineering diagnosis, regeneration, maintenance management
			25	Reliability of machinery and human
			26	Occupational safety and health

（Discipline: Social/Safety system science）

Item Number	Research Field	Screening Sub-panel Number / Keyword		
2202	Natural disaster / Disaster prevention science	A		[Earthquake and volcano disaster mitigation]
			1	Seismic motion
			2	Liquefaction
			3	Active fault
			4	Tsunami
			5	Volcanic eruption
			6	Volcanic ejecta/Debris flow
			7	Seismic hazard
			8	Volcanic hazard
			9	Damage prediction/Analysis/Mitigation measures
			10	Disaster mitigation and buildings
		B		[Natural disasters]
			11	Meteorological disasters
			12	Hydrological disasters
			13	Geo-hazard
			14	Landslide
			15	Drought
			16	Snow and ice disasters
			17	Natural disaster prediction/Analysis/Measures
			18	Lifeline disaster prevention
			19	Local disaster preparedness plan and policy
			20	Rehabilitation and reconstruction engineering
			21	Disaster risk assessment

Discipline: Biomedical engineering

Item Number	Research Field	Screening Sub-panel Number / Keyword		
2301	Biomedical engineering/ Biomaterial science and engineering	A		[Biomedical engineering]
			1	Medical imaging, Bioimaging
			2	Biological modeling, physiome
			3	Biological simulation
			4	Bioinformation and instrumentation
			5	Artificial Organs
			6	Engineering for regenerative medicine
			7	Biological properties
			8	Biomedical control and therapy
			9	Biomechanics
			10	Cell biomechanics
			11	Nano-Bio Systems
			12	Biomedical Ultrasound
			13	Physiologically active substances application
			14	Bio-inspired system
		B		[Biomaterial science and engineering]
			15	Biomaterials
			16	Biofunctional materials
			17	Cell and Tissue engineering Materials
			18	Biocompatible materials/Biosuitable materials
			19	Nano-biomaterials
			20	Materials for regenerative medicine and engineering
			21	Drug delivery system
			22	Stimuli-responsive materials
			23	Materials for genetic and nucleic acid engineering
2302	Medical systems		1	Medical Ultrasound System
			2	Medical imaging system
			3	Laboratory examination system
			4	Minimally invasive treatment system
			5	Remote diagnosis and treatment system
			6	Organ preservation and treatment system
			7	Medical information system
			8	Computational surgery
			9	Medical robotics
2303	Medical engineering assessment		1	Regulartory Science
			2	Safety validation
			3	Clinical studies
			4	Biomedical engineering ethics
			5	Medical devices

（Discipline: Biomedical engineering）

Item Number	Research Field	Screening Sub-panel Number / Keyword			
2304	Rehabilitation science/ Welfare engineering	A			[Rehabilitation science]
			1	1	Rehabilitation medicine
				2	Disability science
				3	Speech language and hearing therapy
				4	Social welfare and health science
				5	Artificial sensory organs
				6	Gerontology
				7	Clinical psychotherapy
			2	8	Physical therapy
				9	Occupational therapy science
		B			[Welfare engineering]
			10		Engineering for health and welfare
			11		Technology for activities of daily living
			12		Preventive care/Assistive technology
			13		Normalization
			14		Barrier-free system
			15		Universal design
			16		Robotics for welfare and nursing care
			17		Technology for substituting biological function
			18		Technical aid
			19		Human interface
			20		Nursing engineering

Discipline: Health/Sports science

Item Number	Research Field	Screening Sub-panel Number / Keyword			
2401	Developmental mechanisms and the body works	A			[Developmental mechanisms and the body works]
			1		Educational physiology
			2		Physical systems science
			3		Biological information analysis
			4		Higher brain function science
			5		Physical growth developmental science
			6		Sensory and motor development studies
		B			[Mental and physical education and culture]
			7		Aesthetic education
			8		Physical environment theory
			9		Kinetic theory of leadership
			10		Pedagogy of physical education
			11		Fitness
			12		Cultural theories of physical movement
			13		Philosophy of the body
			14		Life and death education
			15		Psychology of physical education
			16		Affective science
			17		Outdoor education
			18		Dance education
			19		Gender education
			20		Adult life stage elderly gymnastics
			21		Martial arts theory
			22		Motion adaptation life science
2402	Sports science	A			[Sports science]
			1	1	Sports philosophy
				2	Sports history
				3	Sports psychology
				4	Sports science management
				5	Sports pedagogy
				6	Training science
				7	Sports biomechanics
			2	8	Coaching
				9	Sports talent
				10	Sports for the disabled
				11	Sports sociology
				12	Sports environment
				13	Cultural anthropology of sport
		B			[Medical and sport sciences]
			14		Sports physiology
			15		Sports biochemistry
			16		Sports nutrition
			17		Energy metabolism
			18		Training medical science
			19		Sports disorders
			20		Doping

（Discipline: Health/Sports science）

Item Number	Research Field	Screening Sub-panel Number / Keyword			
2403	Applied health science	A			[Health education/Health promotion activities]
			1	1	Health education
				2	Health promotion
				3	Safety propulsion/Safety education
				4	Pedagogy of health education
				5	Stress management
				6	Smoking/Drug abuse prevention education
				7	School health
			2	8	AIDS and sex education
				9	Health management
				10	Health information
				11	Nutritional guidance
				12	Physical and mental health
				13	Leisure/Recreation
		B			[Applied medical health]
				14	Lifestyle diseases
				15	Exercise prescription and exercise therapy
				16	Aging
				17	Sports medicine
				18	Sports immunology

Discipline: Childhood science

Item Number	Research Field	Screening Sub-panel Number / Keyword	
2451	Childhood science (childhood environment science)	1	Health/Growth
		2	Development/Child care
		3	Exercise/Play
		4	Human rights/Right
		5	Misconduct/Deviation
		6	Social environment
		7	Cultural environment
		8	Physical environment
		9	Educational environment

Discipline: Biomolecular science

Item Number	Research Field	Screening Sub-panel Number / Keyword	
2501	Biomolecular chemistry	1	Natural product chemistry
		2	Secondary metabolite
		3	Searching bioactive molecules
		4	Chemical modification of biomolecules
		5	Biological function related substance
		6	Molecular mechanism of activity expression
		7	Biosynthesis
		8	Design and synthesis of bioactive molecule
		9	Combinatorial chemistry
		10	Chemical ecology
		11	Metabolome
2502	Chemical biology	1	In vivo functional expression
		2	Searching medicines
		3	Searching diagnosis chemicals
		4	Searching agricultural chemicals
		5	Chemical library
		6	Structure-activity relationship
		7	Chemical probes
		8	Molecular imaging
		9	Biomolecule measurements
		10	Intracellular chemical reactions
		11	Molecular targeting drugs
		12	Proteomics
		13	Directed evolution

Discipline: Brain sciences

Item Number	Research Field	Screening Sub-panel Number / Keyword		
2601	Basic / Social brain science	A	1	Genome brain science
			2	Epigenetics
			3	Brain molecule profiling
			4	Nano brain science
			5	Chemical biology
			6	Medicinal brain science
			7	Brain function probe
			8	Brain imaging
			9	Luminary brain science
			10	Neuron glial cross-interaction
			11	Brain function model animals
			12	Brain function behavioral analysis
			13	Brain and rhythm
			14	Sleep
			15	Neuropsychology/Linguistic science
			16	Neurological scinece
			17	Science of Dementia
		B	18	Communication
			19	Human interaction
			20	Social behavior
			21	Development and education
			22	Sensibility, affectivity and emotion
			23	Values, reward and punishment
			24	Motivation
			25	Neuroeconomics and neuromarketing
			26	Political brain science
2602	Brain biometrics		1	Brain morphology measurement
			2	Functional /Non-invasive biometry (measurement)
			3	Real time brain blood flow measurement
			4	Brain recordings
			5	Brain information reading (Decoding)
			6	Sensory information
			7	Kinetic (motor) information
			8	Cognitive information
			9	Higher brain function measurement
			10	Brain information processing
			11	Brain function operation
			12	Brain machine interface

Category: Humanities and Social Sciences

Area: Humanities/Social sciences

Discipline: Area studies

Item Number	Research Field		Screening Sub-panel Number / Keyword
2701	Area studies	1	Europe
		2	Russia/Slavic area
		3	North America
		4	Central and South America
		5	East Asia
		6	Southeast Asia
		7	South Asia
		8	West Asia/Central Asia
		9	Africa
		10	Oceania
		11	Global studies
		12	Cross-regional comparative studies
		13	Aid/Regional cooperation

Discipline: Gender

Item Number	Research Field		Screening Sub-panel Number / Keyword
2801	Gender	1	Gender differences/Gender roles
		2	Sexuality
		3	Social thought/Social movements/History
		4	Law/Politics
		5	Economy/Labor
		6	Social policy/Social welfare
		7	Body/Expression/Media
		8	Science and technology/Medicine/Life Science
		9	Education/Human development
		10	Development
		11	Violence/Prostitution
		12	Cross-cultural comparison
		13	Women's studies/Men's studies/Queer studies
		14	Career
		15	Gender equality
		16	Comparative analysis among nations

Discipline: Tourism Studies

Item Number	Research Field		Screening Sub-panel Number / Keyword
2851	Tourism Studies	1	Tourism Theory
		2	Tourism Resources
		3	Tourism Policy
		4	Tourist Industry
		5	Regional Development
		6	Town Planning
		7	Tourists
		8	Resorts
		9	Landscape
		10	World Heritage Sites
		11	Festivals and Events

Area: Humanities

Discipline: Philosophy

Item Number	Research Field		Screening Sub-panel Number / Keyword
2901	Philosophy/ Ethics	1	Principles of philosophy/Specific theories of philosophy
		2	Principles of ethics/Specific theories of ethics
		3	Western philosophy
		4	Western ethics
		5	Japanese philosophy
		6	Japanese ethics
		7	Comparative philosophy
2902	Chinese philosophy/ Indian philosophy/ Buddhist studies	1	1 Chinese philosophy/Thought
			2 Chinese Buddhism
			3 Taoism
			4 Confucianism
		2	5 Indian philosophy/Thought
			6 Buddhist studies/History of Buddhism
2903	Religious studies	1	Religious studies in general
		2	History of religions
		3	Sociology of religion
		4	Philosophy of religion
		5	Comparative study of religion
2904	History of thought	1	History of Western thought
		2	History of Eastern and Japanese thought
		3	Comparative history of thought
		4	History of religious thought
		5	History of social thought
		6	History of political thought
		7	History of scientific thought
		8	History of art theory

Discipline: Art studies

Item Number	Research Field		Screening Sub-panel Number / Keyword
3001	Aesthetics and studies on art	1	Aethetics
		2	Philosophy and theory of art
		3	Musicology and music history
		4	Miscellaneous art studies
3002	Fine art history	1	Japanese and Eastern art history
		2	Western art history
		3	Comparative art history
		4	Iconology and religious art history
		5	Architecture history
		6	History of design, product design and clothing
3003	Art at large	1	Cultural representation studies
		2	Pop culture
		3	Film studies
		4	Performing arts
		5	Policy, arts management and creative industries
		6	Art practice, and musical and other performance
		7	Media arts

Discipline: Literature

Item Number	Research Field		Screening Sub-panel Number / Keyword
3101	Japanese literature	1	1 Japanese literature in general
			2 Ancient literature (Nara and Heian periods)
			3 Medieval literature (Kamakura and Muromachi periods)
			4 Kanbungaku (Chinese literature in Japan)
			5 Bibliography and philology
		2	6 Premodern literature (Edo period)
			7 Modern and contemporary literature (after Meiji Restoration)
			8 Literary theory, criticism, and comparative literature

（Discipline: Literature）

Item Number	Research Field	Screening Sub-panel Number / Keyword		
3102	Literature in English	1	1	English literature
			2	Comparative literature
		2	3	American literature
			4	Other literatures in English
			5	Literary theory, criticism, bibliography and philology
3103	European literature	1	1	French and Francophone literature
			2	Western classics
			3	Literary theory, criticism, bibliography and philology
			4	Comparative literature
		2	5	German literature
			6	Russian and East European literature
			7	Other European literature
3104	Chinese literature		1	Chinese literature
			2	Bibliography and philology
			3	Literary theory and criticism
			4	Comparative literature
3105	Literature in general		1	Literary theory and criticism
			2	Comparative literature
			3	Literature in other languages and areas

Discipline: Linguistics

Item Number	Research Field	Screening Sub-panel Number / Keyword		
3201	Linguistics	1	1	Phonetics
			2	Phonology
			3	Morphology
			4	Syntax
			5	Semantics
			6	Pragmatics
			7	Scripts and orthography
			8	Lexicography
		2	9	Sociolinguistics
			10	Discourse analysis
			11	Psycholinguistics
			12	Biolinguistics
			13	Historical linguistics
			14	French linguistics
			15	German linguistics
			16	Chinese linguistics
			17	Other languages
			18	Endangered and minority languages
			19	Neurolinguistics
			20	Corpus linguistics
3202	Japanese linguistics		1	Phonetics/Phonology
			2	Grammar
			3	Morphology, Semantics
			4	Writing systems
			5	Stylistics
			6	Dialect
			7	Language in daily life
			8	History of the Japanese language
			9	History of Japanese linguistics
3203	English linguistics		1	Phonetics/Phonology
			2	Grammar
			3	Morphology, Semantics
			4	Stylistics
			5	History of the English language
			6	History of English linguistics
			7	Diversity of the English language

（Discipline: Linguistics）

Item Number	Research Field	Screening Sub-panel Number / Keyword		
3204	Japanese language education		1	Systems of Japanese language education/ Language policy
			2	Theories on qualified teachers/Classroom research
			3	Teaching methods/Curriculum planning
			4	Theory of second language acquisition
			5	Educational technology/Teaching materials/Educational media in general
			6	Mother tongue retention/Bilingual education
			7	Cross-cultural understanding and intercultural communication
			8	Japanese affairs
			9	History of Japanese language education
			10	Educational testing and evaluation
3205	Foreign language education	1	1	Teaching methods/Curriculum planning
		2	2	Educational technology/Teaching materials/Educational media in general
			3	e-Learning/Computer-assisted language learning
		3	4	Theory of second language acquisition
			5	Intercultural communication, translation and interpretation
		4	6	Early foreign language education
			7	Foreign language education and language policies
			8	Theory and history of foreign language education
			9	Educational testing and evaluation
			10	Training foreign language teachers

Discipline: History

Item Number	Research Field	Screening Sub-panel Number / Keyword		
3301	Historical studies in general		1	World history
			2	History of cultural and diplomatic exchange
			3	Comparative history
			4	Comparative study of civilizations
			5	Globalization
			6	Environmental history
			7	History of islands and oceans
			8	Research in historical materials
3302	Japanese history	1	1	Ancient history (Nara and Heian periods)
			2	Medieval history (Kamakura and Muromachi periods)
			3	Cultural history
			4	Religious history
			5	Rural history
			6	Japanese history in general
			7	History of cultural and diplomatic exchange
			8	Research in historical materials
		2	9	Early modern history (Edo period)
			10	Modern and contemporary history (after the Meiji Restoration)
			11	Local history
			12	Environmental history
			13	History of disasters
			14	Urban history

(Discipline: History)

Item Number	Research Field	Screening Sub-panel Number / Keyword	
3303	History of Asia and Africa	1	Chinese history (Ancient, medieval, and early modern periods)
		2	Chinese history (Modern and contemporary periods)
		3	East Asian history
		4	Southeast Asian history
		5	Oceanian history
		6	South Asian history
		7	West Asian/Islamic history
		8	Central Eurasian history
		9	African history
		10	Comparative history/History of cultural and diplomatic exchange
		11	Research in historical materials
3304	History of Europe and America	1	Ancient European history
		2	Medieval European history
		3	Modern and contemporary West European history
		4	Modern and contemporary East European history
		5	Modern and contemporary South European history
		6	Modern and contemporary North European history
		7	North and South American history
		8	Comparative history/History of cultural and diplomatic exchange
		9	Research in historical materials
3305	Archaeology	1	Archaeology in general
		2	Prehistoric studies
		3	Historical archaeology
		4	Japanese archaeology
		5	Asian archaeology
		6	Study of ancient civilizations
		7	Study of material culture
		8	Experimental archaeology
		9	Research in buried cultural assets
		10	Archaeological informatics

Discipline: Human geography

Item Number	Research Field	Screening Sub-panel Number / Keyword	
3401	Human geography	1	History of geography/Methodology
		2	Economic geography/Transportation geography
		3	Political geography/Social geography
		4	Cultural geography
		5	Urban geography
		6	Rural geography
		7	Historical geography
		8	Regional environment/Natural hazards
		9	Geography education
		10	Regional planning/Regional policy
		11	Regional geography
		12	Geographic information system
		13	History of cartography

Discipline: Cultural anthropology

Item Number	Research Field	Screening Sub-panel Number / Keyword	
3501	Cultural anthropology	1	Cultural anthropology
		2	Folklore
		3	Ethnography
		4	Social anthropology
		5	Comparative folklore
		6	Material culture
		7	Prehistoric period/Historic period
		8	Arts/Performing arts
		9	Religion/Rituals
		10	Development/Aid
		11	Health care
		12	Migration/Border crossing
		13	Minority
		14	Ecology/Natural environment
		15	Media
		16	Body/ Sport

Area: Social sciences

Discipline: law

Item Number	Research Field		Screening Sub-panel Number / Keyword
3601	Fundamental law	1	Legal philosophy/Legal theory
		2	Roman law
		3	Legal history
		4	Sociology of law
		5	Comparative law
		6	Foreign law
		7	Law and policy, Legislative studies
		8	Law and economics
3602	Public law	1	Constitutional law
		2	Administrative law
		3	Tax law
		4	Constitutional theory, History of constitution
		5	Constitutional litigation
		6	Comparative constitutional law, EU law
		7	Administrative organization law
		8	Administrative procedure
		9	Administrative remedies
		10	International tax law
3603	International law	1	Public international law
		2	Private international law
		3	International human rights, Nationality law
		4	Law of international organizations
		5	International economic law
		6	International civil procedure
		7	International trade law
3604	Social law	1	Labor law
		2	Economic law
		3	Social security law
		4	Education law
3605	Criminal law	1	Criminal law
		2	Criminal procedure
		3	Criminology
		4	Criminal justice policy
		5	Juvenile law
		6	Law and psychology
3606	Civil law	1	Civil law
		2	Commercial law
		3	Civil procedure
		4	Company law, Business corporate law
		5	Financial law
		6	Securities law
		7	Insurance law
		8	Insolvency law
		9	Alternative dispute resolution
		10	Civil execution law
3607	New fields of law	1	Environmental law
		2	Medical law
		3	Information law, Media law
		4	Intellectual property law
		5	Law and gender
		6	Law and education, Legal profession, Legal teaching
		7	Legal person, Trusts
		8	Consumer law
		9	Traffic law
		10	Land law, Housing law
		11	Judicial system

Discipline: Politics

Item Number	Research Field		Screening Sub-panel Number / Keyword
3701	Politics	1	Political theory
		2	Political methodology
		3	History of Western political thought
		4	History of Japanese and East Asian political thought
		5	Political history
		6	Japanese political history
		7	Japanese politics
		8	Political process
		9	Electoral studies
		10	New institutionalism
		11	Political economy
		12	Public administration
		13	Local government
		14	Comparative politics
		15	Public policy
3702	International relations	1	Theory of international relations
		2	Diplomatic history/International history
		3	Foreign policy
		4	International security
		5	Non-traditional security/ Human security
		6	International political economy
		7	International regime
		8	International integration
		9	International cooperation
		10	International communication
		11	Transnational relations
		12	Global issues
		13	International relations of East Asia
		14	International development cooperation

Discipline: Economics

Item Number	Research Field		Screening Sub-panel Number / Keyword
3801	Economic theory	1	Microeconomics
		2	Macroeconomics
		3	Economic theory
		4	Game theory
		5	Behavioral Economics
		6	Experimental Economics
		7	Evolutionary Economics
		8	Economic Institutions and Systems
3802	Economic doctrine/ Economic thought	1	Economic doctrine
		2	Economic thought
		3	Social thought
		4	Economic Philosophy
3803	Economic statistics	1	Statistical system
		2	Statistical research
		3	Population statistics
		4	Income/Wealth distribution
		5	National accounts
		6	Econometrics
		7	Financial Econometrics
3804	Economic policy	1	International economics
		2	Industrial organization
		3	Economic development
		4	Economic policy
		5	Urban economics
		6	Transportation economics
		7	Regional economics
		8	Environmental economics
		9	Resource economics
		10	Japanese economy
		11	Economic affairs

（Discipline: Economics）

Item Number	Research Field	Screening Sub-panel Number	Keyword
3805	Public finance/ Public economy	1	Public finance
		2	Local government finance
		3	Public economics
		4	Public policy
		5	Health economics
		6	Labor economics
		7	Social security
		8	Education economics
		9	Law and economics
		10	Political economics
3806	Money/ Finance	1	Monetary economics
		2	Finance
		3	International finance
		4	Corporate finance
		5	Insurance
		6	Financial engineering
3807	Economic history	1	Economic history
		2	Business history
		3	Industrial history

Discipline: Management

Item Number	Research Field	Screening Sub-panel Number	Keyword
3901	Management	1	Organizational management
			Managerial finance
			Management information
			Business administration
			Corporate social responsibility
			Management theory
		2	Corporate strategy
			International management
			Management of technology
			Business ventures
			Human resource management
3902	Commerce		Marketing
			Consumer behavior
			Advertising
			Distribution and logistics
			Marketing research
			Commerce
			Insurance
3903	Accounting		Financial accounting
			Managerial accounting
			Auditing
			Bookkeeping
			International accounting
			Tax accounting
			Governmental accounting
			Environmental accounting

Discipline: Sociology

Item Number	Research Field	Screening Sub-panel Number	Keyword
4001	Sociology	1	Social philosophy/Social thought
			History of sociology
			Sociological Theory / Sociological Methodology
			Social System
			Social research
			Mathematical sociology
			Social interaction/Social relations
			Social group/Social organization
			Institutions/Structure/Social change
			Knowledge/Science/Technology
			Politics/Power/State
			Class/Social status group /Social mobility
		2	Family/Kinship/Population
			Community/Village/City
			Industry/Labor
			Sociology of welfare
			Culture/Religion/Social consciousness
			Communication/Information/Media
			Gender
			Education/School
			Medical sociology /Disability studies
			Social problems/Social movements
			Discrimination/Social exclusion
			Environment/Pollution
			International community/Ethnicity
			Body/Sports
			Self/Identity
4002	Social welfare and social work studies		Principles of social welfare/philosophy of social welfare
			Social welfare history
			Social security / Social welfare policy
			Welfare state/ Welfare society
			Social work
			Poverty/ Public assistance
			Child welfare
			Women's welfare/ Feminist social work
			Social policy and social work with people with disabilites
			Social policy and social work with the elderly
			Social work with families
			Community work/ commumity services/community development
			Social work in mental health /social work in health care/ care work
			Forensic social work/ social work in juvenile delinquency and criminal justice
			Management in social work / Advocacy/evaluation
			International social work / NGOs in social welfare
			Volunteerism / NPOs in social welfare
			Social work education/ Field education

Discipline: Psychology

Item Number	Research Field			Screening Sub-panel Number / Keyword
4101	Social psychology		1	Self-processes
			2	Social cognition/Emotion
			3	Attitude/Belief
			4	Social interaction/Interpersonal relations
			5	Interpersonal communication
			6	Group/Leadership
			7	Collective behavior/Social phenomena
			8	Industry/Organization/Personnel
			9	Culture
			10	Social issues
			11	Environment/Environmental problems
			12	Media/Electronic network
			13	Consumer behavior
4102	Educational psychology		1	Development
			2	Parent-child relationship
			3	Developmental disorder
			4	Personality
			5	Teaching Method/Learning
			6	Educational assessment/evaluation
			7	Educational counseling
			8	Interpersonal relations/ behavior
			9	Self-process
			10	School,Class,Teacher
4103	Clinical psychology		1	Psychological disorder
			2	Crime/Delinquency
			3	Psychological assessment
			4	Psychotherapy
			5	Psychological intervention
			6	Nonverbal communication
			7	Counseling
			8	Psychological interviewing process
			9	Case study
			10	Self-help group
			11	Therapist's theory
			12	Community support
			13	Health psychology/Health development
			14	Rehabilitation psychology
4104	Experimental psychology		1	Psycho-physiology
			2	Sensation/Perception/Kansei
			3	Consciousness/Cognition/Attention
			4	Memory
			5	Affection/Emotion/Motivation
			6	Thinking/Reasoning/Language
			7	Learning/Behavior analysis
			8	Evolution/Development/Comparative cognition
			9	Principle/History/Methodology

Discipline: Education

Item Number	Research Field			Screening Sub-panel Number / Keyword
4201	Education	1	1	Philosophy of education
			2	Educational thought
			3	History of education
			4	Curriculum theory
			5	Instructional theory
			6	Academic achievement theory
			7	Educational methods
			8	Educational evaluation
			9	Teacher education
		2	10	Administration and finance of education
			11	School management
			12	School education
			13	Early childhood education/Child-care
			14	Lifelong learning
			15	Adult and community education
			16	Education at home
			17	Education policy

（Discipline: Education）

Item Number	Research Field			Screening Sub-panel Number / Keyword
4202	Sociology of education		1	Sociology of education
			2	Economics of education
			3	Anthropology of education
			4	Education policy
			5	Comparative education
			6	Human resource development/Development education
			7	School system/School culture
			8	Teacher/Student culture
			9	Youth problems
			10	Academic achievement problem
			11	Multicultural education
			12	Gender and education
			13	Education survey method
			14	Educational information system
4203	Education on school subjects and activities	1	1	Education of individual subjects (Japanese、mathematics、science、social studies、geography/History、civics、life environmental studies、music、art、physical and health education、home economics、technology、English、information)
			2	Education of vocational/Professional subject (industry、bussiness、agriculture、fishery、nursing、welfare)
		2	3	Curriculum composition/development
			4	Materials development
			5	Education excluding subject (global learning、moral、special activities)
			6	Guidance
			7	Career education
			8	Teacher training
4204	Special needs education		1	Education philosophy, Thought and History
			2	Education system, Policy, and Administration
			3	Psychological clinical study and Experiment study
			4	Assessment
			5	Instruction, Support, and Evaluation
			6	Support system and Special needs education coordinator
			7	Consultation and Counseling
			8	Family and advocacy
			9	Cohesive society and School inclusion
			10	Early detection and Early support
			11	Regular classroom and Resource room
			12	Special school for Children with disabilities
			13	Higher education and Career education
			14	Developmental disabilities and Emotional disturbance
			15	Intellectual disabilities
			16	Visual impairments, Deaf and Hard of hearing, and Speech and Language disorders
			17	Physical disorders and Health impairments
			18	Learning difficulties and School maladjustment
			19	Gifted and Talented

Category: Science and Engineering

Area: Interdisciplinary science and engineering

Discipline: Nano/Micro science

Item Number	Research Field		Screening Sub-panel Number / Keyword
4301	Nanostructural chemistry	1	Nanostructural chemistry
		2	Creation of nanostructures
		3	Clusters/Nanoparticles
		4	Fullerenes/Nanotubes/Graphene
		5	Mesoscopic Chemistry
		6	Hierarchical structures/Superstructures
		7	Nanosurfaces/Nanointerfaces
		8	Self-assembly
4302	Nanostructural physics	1	Nanotubes/Graphene
		2	Nanostructure properties
		3	Nanoscale control physics
		4	Nano/Micro physics
		5	Nanoprobes
		6	Quantum information
		7	Quantum effects
		8	Quantum dots
		9	Quantum devices
		10	Electron devices
		11	Spin devices
		12	Nanotribology
4303	Nanomaterials chemistry	1	Creation of nanomaterials
		2	Analysis and characterization of nanomaterials
		3	Nanosurfaces/Nanointerfaces
		4	Functional nanomaterials
		5	Formation/Control of nanostructures
		6	Molecular components
		7	Nanoparticles
		8	Fullerenes/Nanotubes/Graphene
		9	Carbon nanomaterials
		10	Single-molecule chemistry
		11	Nano-optical devices
		12	Molecular devices
4304	Nanomaterials engineering	1	Nano crystalline materials/Composites
		2	Nano particles/Wires/Sheets
		3	Nano dots/Layers
		4	Nano defect control
		5	Hetero/Homo structures
		6	Nano materials /Fabrication process
		7	Nano shaping/Forming process
		8	Nano carbon applications
		9	Nano and micro structural analysis /Evaluation/Testing
4305	Nanobioscience	1	DNA devices
		2	Nanosynthesis
		3	Molecular manipulation
		4	Biochips
		5	Single-molecule biochemistry and physiology
		6	Single-molecule bioinformation science
		7	Single-molecule science
		8	Single-molecule imaging/Nanometrology
		9	Genomic engineering
4306	Nano/ Microsystems	1	MEMS・NEMS
		2	Nano/Microfabrication
		3	Nano/Micro-optical devices
		4	Nano/Microchemical systems
		5	Nano/Microbiosystems
		6	Nano/Micromechanics
		7	Nano/Microsensors

Discipline: Applied physics

Item Number	Research Field		Screening Sub-panel Number / Keyword
4401	Applied materials	1	Magnetic material
		2	Superconductor
		3	Dielectric
		4	Optical properties
		5	Micro crystal
		6	Organic molecule
		7	Liquid crystal
		8	New functional materials
		9	Spintronics
		10	Organic/Molecular electronics
		11	Bioelectronics
4402	Crystal engineering	1	Metal
		2	Semiconductor
		3	Amorphous
		4	Crystallite
		5	Ceramics
		6	Crystal growth
		7	Epitaxial growth
		8	Crystal characterization
		9	Heterostructure
		10	Electronic/optical functionality
4403	Thin film/ Surface and interfacial physical properties	1	Ferroelectric thin film
		2	Carbon-related thin film
		3	Oxide electronics
		4	New functional thin film materials
		5	Surface
		6	Interface
		7	Vacuum
		8	Beam application
		9	Scanning probe microscopy
		10	Electron microscopy
4404	Optical engineering, Photon science	1	Optical elements/Instrumentation/Materials
		2	Quantum information processing
		3	Vision
		4	Quantum electronics
		5	Laser
		6	Nonlinear optics
		7	Quantum optics
		8	Photonic crystals
		9	Opto-electronics
		10	Micro-and nano-optics
		11	Optical sensing
		12	Optical recording
		13	Optical controlling
		14	Photo-processing
4405	Plasma electronics	1	Plasma
		2	Plasma processing
		3	Plasma application
		4	Reactive plasma
		5	Plasma chemistry
		6	Plasma treatment
		7	Plasma diagnostics

Area: Mathematical and physical sciences

（Discipline: Applied physics）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
4406	General applied physics	1	Mechanics
		2	Thermal engineering
		3	Sounds
		4	Vibration
		5	Electromagnetism
		6	Physical measurements and control
		7	Standards
		8	Sensors
		9	Energy conversion
		10	Radiation
		11	Accelerators

Discipline: Quantum beam science

Item Number	Research Field	Screening Sub-panel Number / Keyword	
4501	Quantum beam science	1	Technology of accelerator
		2	Diagnostics for quantum beams
		3	Data processing and analysis
		4	Detectors
		5	Industrial application
		6	Medical application
		7	Compact quantum beam generator
		8	Lasers
		9	X-ray
		10	γ-ray
		11	Synchrotron radiation
		12	Neutron
		13	Muon
		14	Electron, Positron
		15	Neutrino
		16	Ion beam
		17	Proton beam
		18	Other quantum beam

Discipline: Computational science

Item Number	Research Field	Screening Sub-panel Number / Keyword	
4601	Computational science	1	Mathematical engineering (mathematical analysis/planning/designing/optimization)
		2	Computational mechanics
		3	Numerical simulation
		4	Multi-scale modeling
		5	Large scale simulation
		6	Parallel Processing, 3D simulation
		7	Numerical simulation methods
		8	Advanced algorithms

Discipline: Mathematics

Item Number	Research Field			Screening Sub-panel Number / Keyword
4701	Algebra	1	1	Number theory
			2	Arithmetic geometry
			3	Group theory (including representation theory of groups)
			4	Algebraic combinatorics
		2	5	Algebraic geometry
			6	Ring theory (including Lie algebra theory, representaion theory of Lie algebras)
			7	Other algebra (including algebraic analysis, computational algebra, applications of algebra)
4702	Geometry	1	1	Riemannian geometry (including geometric analysis)
			2	Symplectic geometry (including contact geometry)
			3	Complex geometry
			4	Other differential geometry (including geometric structures, discrete geometry)
		2	5	Topology (algebraic topology, general topology)
			6	Differential topology (foliations, singularities, topological transformation groups)
			7	Low-dimensional topology (knot theory, 3-dimensional manifolds, 4-dimensional manifolds)
4703	Basic analysis	1	1	Functional analysis (including operator theory/representation theory)
			2	Operator algebras
			3	Dynamical systems/Integrable systems
			4	Algebraic analysis
		2	5	Real analysis
			6	Complex analysis
			7	Probability theory
			8	Other basic analysis (including function spaces/foundations of applied analysis)
4704	Mathematical analysis		1	Functional equations
			2	Applied analysis
			3	Nonlinear analysis (including variational analysis/nonlinear phenomena)
4705	Foundations of mathematics/ Applied mathematics	1	1	Mathematical logic and foundations, Information mathematics
			2	Discrete mathematics
		2	3	Numerical analysis/ Mathematical models (including prediction Theory, optimization, data analysis)
			4	Statistical mathematics (including game theory, design of experiments, convex programming problems, decision theory, estimation theory, testing theory,estimation of stochastic processes)
			5	Other applied mathematics

Discipline: Astronomy

Item Number	Research Field	Screening Sub-panel Number / Keyword	
4801	Astronomy	1	Optical/Infrared astronomy
		2	Radio astronomy
		3	Solar physics
		4	Astrometry
		5	Theoretical astronomy
		6	X-ray/γ-ray astronomy

Discipline: Physics

Item Number	Research Field	Screening Sub-panel Number		Keyword
4901	Particle/ Nuclear/ Cosmic ray/ Astro physics	1	1	Particle physics (theory)
		2	2	Nuclear physics (theory)
			3	Cosmic ray physics (theory)
			4	Astrophysics (theory)
			5	Cosmology/Gravitation (theory)
		3	6	Particle physics (experiment)
			7	Nuclear physics (experiment)
			8	Cosmic ray physics (experiment)
			9	Astrophysics (experiment)
			10	Cosmology/Gravitation (experiment)
			11	Accelerator technology
			12	Particle detectors
4902	Condensed matter physics I		1	Semiconductors
			2	Mesoscopic system/Localization
			3	Optical properties
			4	Surface/Interface
			5	Crystal growth
			6	Dielectrics
			7	Lattice defects
			8	X-ray/Particle beam
			9	Phonon properties
			10	Spin properties(semiconductor)
4903	Condensed matter physics II	1	1	Magnetism
			2	Magnetic resonance
		2	3	Strongly-correlated system
			4	High temperature superconductivity
			5	Metal
			6	Ultralow temperature/Condensed quantum system
			7	Superconductivity/Density wave system
			8	Molecular solid/Organic conductor
4904	Mathematical physics/ Fundamental condensed matter physics		1	Statistical physics
			2	Fundamental condensed matter theory
			3	Mathematical physics
			4	Integrable system
			5	Non-equilibrium/Nonlinear physics
			6	Applied mathematics
			7	Dynamics
			8	Fluid physics
			9	Disordered system
			10	Computational physics
4905	Atomic/ Molecular/ Quantum electronics		1	Atom/Molecule
			2	Quantum electronics
			3	Quantum information
			4	Radiation
			5	Beam physics
4906	Biological physics/ Chemical physics/Soft matter physics		1	Physics of living phenomena
			2	Physics of biomolecules
			3	Mathematical biology
			4	Glass・Liquid・Solution
			5	Optical response・Photosynthesis・Chemical reaction
			6	Polymer・Liquid crystal・Gel
			7	Emulsion・Membrane・Colloid
			8	Interface・Wetting・Adhesion・Fracture
			9	Biophysics(general)
			10	Chemical physics(general)
			11	Soft matter physics(general)

Discipline: Earth and planetary science

Item Number	Research Field	Screening Sub-panel Number / Keyword	
5001	Solid earth and planetary physics	1	Earthquake phenomena
		2	Volcanic phenomena
		3	Prediction of earthquakes and volcanic eruptions
		4	Earthquake and volcanic disasters
		5	Crustal movement/Sea floor crustal movement
		6	Geomagnetism
		7	Gravity
		8	Tectonics
		9	Internal structure
		10	Earth interior dynamics/Mineral physics
		11	Solid planets/Satellite/Asteroid
		12	Planet formation and evolution
		13	Exploration of solid planets
		14	Observation methods
5002	Meteorology/ Physical oceanography/ Hydrology	1	Meteorology
		2	Climatology
		3	Planetary atmospheres
		4	Air-sea interaction
		5	Geophysical fluid dynamics
		6	Physical oceanography
		7	Global environmental system
		8	Land-area water cycle/Material circulation
		9	Water budget
5003	Space and upper atmospheric physics	1	Terrestrial and planetary magnetospheres
		2	Geomagnetic variation
		3	Terrestrial and planetary ionospheres
		4	Terrestrial and planetary upper atmospheres
		5	Aurora/Magnetic storm
		6	Solar wind/Interplanetary space
		7	Solar-terrestrial system/Space weather
		8	Space plasma/Plasma wave
		9	Planetary plasma/Planetary atmosphere exploration
5004	Geology	1	Regional geology
		2	Marine geology
		3	Accretionary prism/Orogenic belt
		4	Structural geology/Tectonics
		5	Volcanoes/Active faults/Geologic hazards
		6	Environmental geology/Hydraulic geology
		7	Quaternary study
		8	Applied geology/Urban geology
		9	Sedimentology/Energy resource geology
		10	Earth history/Planetary geology
		11	Geoinformatics
		12	History of geoscience
5005	Stratigraphy/ Paleontology	1	Stratigraphic succession
		2	Fossil
		3	Phylogeny/Evolution/Diversity
		4	Function/Morphology
		5	Paleoecology
		6	Paleobiogeography
		7	Paleoenvironment
		8	Paleo-ocean
5006	Petrology/ Mineralogy/ Economic geology	1	Earth and planetary materials
		2	Earth and planetary evolution
		3	Crust/Mantle/Core
		4	Magma/Igneous rocks
		5	Metamorphic rocks
		6	Mineral physics
		7	Natural and artificial crystals
		8	Elemental fractionation
		9	Ore deposition
		10	Mineral resources
		11	Biologic and environmental minerals

（Discipline: Earth and planetary science）

Item Number	Research Field		Screening Sub-panel Number / Keyword
5007	Geochemistry/ Cosmochemistry	1	Earth and extraterrestrial materials
		2	Material recycling
		3	Distribution of elements and molecules
		4	Isotope/Radiometric dating
		5	Cosmochemistry
		6	Chemistry of the crust and mantle
		7	Organic geochemistry
		8	Biosphere geochemistry
		9	Atmospheric and hydrospheric geochemistry
		10	Environmental/geo-environmental chemistry
		11	Analytical methods

Discipline: Plasma science

Item Number	Research Field		Screening Sub-panel Number / Keyword
5101	Plasma science	1	Basic plasma physics and electric discharges
		2	Space and astrophysical plasmas
		3	Burning plasma
		4	High energy density physics
		5	Complex plasmas
		6	Reactive plasmas
		7	Plasma chemistry
		8	Plasma applications
		9	Plasma diagnostics
		10	Plasma control /Laser
		11	Plasma acceleration
		12	Plasma application to beam physics
		13	Plasma application to mm and THz waves

Area: Chemistry

Discipline: Basic chemistry

Item Number	Research Field		Screening Sub-panel Number / Keyword
5201	Physical chemistry	1	Structural chemistry
		2	Electronic state
		3	Molecular dynamics
		4	Chemical reaction
		5	Reaction dynamics
		6	Molecular spectroscopy
		7	Surface/Interface
		8	Solution
		9	Cluster
		10	Theoretical chemistry
		11	Biophysical chemistry
5202	Organic chemistry	1	Structural organic chemistry
		2	Organic reaction chemistry
		3	Synthetic organic chemistry
		4	Organoelement chemistry
		5	Organic photochemistry
		6	Physical organic chemistry
		7	Theoretical organic chemistry
5203	Inorganic chemistry	1	Metal complex chemistry
		2	Organometallic chemistry
		3	Inorganic solid-state chemistry
		4	Bioinorganic chemistry
		5	Nuclear/Radiochemistry
		6	Supramolecular complexes
		7	Multinuclear/Cluster complexes
		8	Coordination polymers
		9	Solution chemistry
		10	Nanomaterials
		11	Crystal structure
		12	Catalysts
		13	Element resources

Discipline: Applied chemistry

Item Number	Research Field		Screening Sub-panel Number / Keyword
5301	Functional solid state chemistry	1	Optical properties
		2	Electronic properties
		3	Electron spin
		4	Integrated properties
		5	Molecular devices
		6	Supramolecules
		7	Liquid crystals
		8	Crystals
		9	Thin films
		10	Surface/Interface
		11	Colloids/Quantum dots
		12	Electrochemistry
5302	Synthetic chemistry	1	Selective synthesis
		2	Complex/Organometallic catalysis
		3	Fine chemicals
		4	Asymmetric synthesis
		5	Catalyst design/reaction
		6	Environmentally benign synthesis
		7	Reaction field
		8	Automatic synthesis
		9	Biomimetic synthesis
		10	Combinatorial synthesis
		11	Organocatalyst
		12	Natural product synthesis
		13	Synthetic resources

（Discipline: Applied chemistry）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
5303	Polymer chemistry	1	Polymer synthesis
		2	Polymer reaction/degradation
		3	Asymmetric polymerization
		4	Self-assembled polymers
		5	Polymer structure
		6	Polymer properties
		7	Functional polymers
		8	Bio-related polymers
		9	Polymer complex
		10	Polymer thin film/surface
		11	Polymerization catalyst
		12	Polymer resources
5304	Analytical chemistry	1	Sampling/Pretreatment
		2	Solvent/solid-phase extraction
		3	Instrumental analysis
		4	Spectrometric analysis
		5	Laser spectroscopy
		6	Mass spectrometry
		7	X-ray/electron spectroscopy
		8	Surface/particulate analysis
		9	Electrochemical analysis
		10	Chemical/bio sensor
		11	Separation analysis
		12	Chromatography
		13	Electrophoresis
		14	Flow analysis (FIA)
		15	Microchannel analysis
		16	Analytical reagent
		17	Environmental analysis
		18	Organic/polymer analysis
		19	Bioanalysis
5305	Bio-related chemistry	1	Nucleic acid chemistry
		2	Proteins and enzymes
		3	Sugar chemistry
		4	Natural products chemistry
		5	Bio-inorganic chemistry
		6	Bio-related chemistry
		7	Molecular recognition
		8	Bio-functional chemistry
		9	Biotechnology
		10	Biocatalysts
		11	Biofunctional materials
		12	Bio-structural chemistry
5306	Green/ Environmental chemistry	1	Environmental analysis
		2	Sensor/monitoring
		3	Pollutant evaluation
		4	Pollution indicator
		5	Environment assessment
		6	Environmental information chemistry
		7	Pollutant
		8	Decontamination material
		9	Environmental road-reducing substance
		10	Biodegradable substance
		11	Environmental restoration material
		12	Green chemistry
		13	Sustainable chemistry
		14	Recycle
		15	Element recovery
		16	Safety chemistry
		17	Resource analysis

（Discipline: Applied chemistry）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
5307	Energy-related chemistry	1	Energy conversion
		2	Low-carbon Chemistry
		3	High-functional catalysts
		4	Photocatalysts
		5	Molecular devices and materials
		6	Energy resources
		7	Energy conservation chemistry

Discipline: Materials chemistry

Item Number	Research Field	Screening Sub-panel Number / Keyword	
5401	Organic and hybrid materials	1	Liquid crystals
		2	Crystals
		3	Organic semiconductor materials
		4	Organic optical materials
		5	Organic/inorganic hybrid materials
		6	Molecular device materials
		7	Other functional materials
5402	Polymer/ Textile materials	1	Properties of polymer materials
		2	Synthesis of polymer materials
		3	Textiles
		4	Rubbers
		5	Gel
		6	Functional polymer materials
		7	Biopolymers
		8	Polymer alloy
		9	Polymer composites
		10	Polymer/Textile processing
5403	Inorganic industrial materials	1	Crystals
		2	Glass
		3	Ceramics
		4	Metals
		5	Layered/Intercalation compounds
		6	Ion exchangers
		7	Ionic conductors
		8	Photocatalysts
		9	High-functional catalysts
		10	Electrochemical materials
		11	Nanoparticle/Quantum dots
		12	Porous materials
5404	Device related chemistry	1	Semiconductor devices
		2	Electrical, magnetical and optical devices
		3	Biofunctional devices
		4	Batteries
		5	Molecular sensors

Area: Engineering

Discipline: Mechanical engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
5501	Materials/ Mechanics of materials	1	Material design/Process/Mechanical properties/Evaluation
		2	Continuum mechanics
		3	Structural mechanics
		4	Damage mechanics
		5	Fracture
		6	Fatigue
		7	Environments
		8	Reliability
		9	Biomechanics
		10	Nano/Micro material mechanics
		11	Bio material mechanics
5502	Production engineering/ Processing studies	1	Modeling for production
		2	Production Systems
		3	Production management
		4	Process design
		5	Machine tools
		6	Forming process
		7	Cutting/Grinding process
		8	Special processing
		9	Ultraprecision machining
		10	Nano/Micro machining
		11	Precise positioning/Measurements
5503	Design engineering/ Machine functional elements/ Tribology	1	Design engineering
		2	Shape modeling
		3	CAD･CAM･CAE
		4	Synectics
		5	Dynamics of mechanisms
		6	Machine elements
		7	Functional components
		8	Failure diagnostics
		9	Safety design
		10	Life cycle analysis and design
		11	Recycle design
		12	Tribology
		13	Nano/Micro tribology
5504	Fluid engineering	1	Computational fluid dynamics
		2	Flow measurements
		3	Compressible/Incompressible flow
		4	Turbulent flow
		5	Multi-phase flow
		6	Reacting flow
		7	Non-Newtonian flow
		8	Micro flow
		9	Molecular fluid dynamics
		10	Bio-fluid mechanics
		11	Environmental fluid mechanics
		12	Acoustics
		13	Fluid machinery
		14	Fluid power systems
5505	Thermal engineering	1	Thermophysical property
		2	Convection
		3	Heat conduction
		4	Thermal radiation
		5	Mass transfer
		6	Combustion
		7	Nano/Micro thermal engineering
		8	Thermal engine
		9	Refrigeration/Air conditioning
		10	Heat transfer equipment
		11	Energy engineering
		12	Bio thermal engineering

（Discipline: Mechanical engineering）

Item Number	Research Field	Screening Sub-panel Number	Keyword
5506	Dynamics/ Control	1	Dynamics
		2	Dynamic design
		3	Vibration mechanics
		4	Vibration analysis/tests
		5	Control instrument
		6	Motion control
		7	Vibration control
		8	Mechanical measurements
		9	Aseismic/Seismic isolation design
		10	Vehicle and transport system control
		11	Acoustic information/Acoustical control
		12	Acoustic energy
5507	Intelligent mechanics/ Mechanical systems	1	Robotics
		2	Mechatronics
		3	Nano/Micro mechatronics
		4	Biomechanics
		5	Softmechanics
		6	Information equipment/Intelligent (smart) machine systems
		7	Precision mechanics and systems
		8	Human-machine systems
		9	Information systems

Discipline: Electrical and electronic engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
5601	Power engineering/ Power conversion/ Electric machinery	1	Electrical energy engineering (generation/conversion/storage, and energy conservation)
		2	Power system engineering
		3	Electric machinery
		4	Power electronics
		5	Effective utilization of electric energy
		6	Electric/Electromagnetic compatibility
		7	Illumination/Lighting
5602	Electronic materials/ Electric materials	1	Electrical and electronic materials(semiconductor, dielectric,magnetic, ferro-dielectric,organic,insulator, superconductor,etc.）
		2	Thin film/Quantum structure
		3	Thick film
		4	Fabrication/Characterization method
5603	Electron device/ Electronic equipment	1	Electron device/Integrated circuits
		2	Circuit design/Computer aided circuit design (CAD)
		3	Optical devices and circuits
		4	Quantum devices/Spintronic devices
		5	Microwave/Millimeter wave/Terahertz wave
		6	Wave technology and applications
		7	Bio devices
		8	Information storage/record
		9	Display
		10	Sensing devices
		11	Micro fabrication process technology
		12	Interconnect,packaging and system integration
5604	Communication/ Network engineering	1	Electronic circuits and systems
		2	Nonlinear theory/circuits
		3	Information theory
		4	Signal processing
		5	Communication systems (wireless、wired、satellite、optical and mobile)
		6	Modulation/Demodulation
		7	Coding/Decoding
		8	Protocol
		9	Antennas
		10	Routing/Switching
		11	Networks/Local area networks (LAN)
		12	Multimedia
		13	Cryptography/Security

(Discipline: Electrical and electronic engineering)

Item Number	Research Field	Screening Sub-panel Number	Keyword
5605	Measurement engineering	1	Measurement technology
		2	Measuring/Analyzing instruments
		3	Measurement systems
		4	Signal processing
		5	Sensing information processing
5606	Control engineering/ System engineering	1	Control theory
		2	System theory
		3	Knowledge-based control
		4	Control technology
		5	Control systems
		6	Complex systems
		7	System information (knowledge) processing
		8	Social systems engineering
		9	Management systems engineering
		10	Environmental systems engineering
		11	Production systems engineering
		12	Biosystems engineering

Discipline: Civil engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
5701	Civil engineering materials/ Construction/ Construction management	1	Concrete
		2	Steel
		3	Polymeric materials
		4	Composite material/New materials
		5	Timber
		6	Construction
		7	Pavement/Bituminous materials
		8	Maintenance/Management
		9	Construction business plan/Construction design
		10	Construction management
		11	Underground space
		12	Civil engineering informatics
5702	Structural engineering/ Earthquake engineering/ Maintenance management engineering	1	Applied mechanics
		2	Structural engineering
		3	Steel structure
		4	Concrete structure
		5	Hybrid structure
		6	Wind engineering
		7	Earthquake engineering
		8	Earthquake resistant structure
		9	Earthquake disaster prevention
		10	Maintenance engineering
5703	Geotechnical engineering	1	Soil mechanics
		2	Foundation engineering
		3	Rock engineering
		4	Engineering geology
		5	Ground behavior
		6	Ground and structure
		7	Geotechnical disaster prevention
		8	Geo-environmental engineering
		9	Tunnel engineering
5704	Hydraulic engineering	1	Hydraulics
		2	Environmental hydraulics
		3	Hydrology
		4	River engineering
		5	Water resources engineering
		6	Coastal engineering
		7	Port engineering
		8	Ocean engineering
5705	Civil engineering project/ Traffic engineering	1	Infrastructure planning
		2	Regional/Urban planning
		3	Nationwide spatial planning
		4	Disaster prevention planning/Environmental planning
		5	Transportation planning
		6	Traffic engineering
		7	Railway engineering
		8	Surveying/Remote sensing
		9	Landscape architecture/Design
		10	Infrastructure history

(Discipline: Civil engineering)

Item Number	Research Field	Screening Sub-panel Number	Keyword
5706	Civil and environmental engineering	1	Environmental planning and management
		2	Environmental systems
		3	Environmental conservation
		4	Water and wastewater systems
		5	Domestic and industrial wastes
		6	Soil and water environments
		7	Atmospheric circulation/Noise and vibration
		8	Ecological engineering

Discipline: Architecture and building engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
5801	Building structures/ Materials	1	Load theory
		2	Structural analysis
		3	Structural design
		4	Concrete structure
		5	Steel structure
		6	Timber structure
		7	Composite structure
		8	Foundation
		9	Structural material
		10	Building construction method
		11	Maintenance technology
		12	Earthquake disaster prevention
		13	Structure control
		14	Earthquake resistant design
		15	Wind resistant design
5802	Architectural environment/ Equipment	1	Sound/Vibration environment
		2	Light environment
		3	Heat environment
		4	Air environment
		5	Environmental equipment planning
		6	Environmental psychology/physiology
		7	Building equipment
		8	Fire engineering
		9	Global/Urban environment
		10	Environment designing
5803	Town planning/ Architectural planning	1	Planning theory
		2	Design theory
		3	Housing theory
		4	Building types/District facilities
		5	Urban/Regional planning
		6	Administration/System
		7	Building/Urban economy
		8	Production management
		9	Disaster prevention planning
		10	Landscape/Environmental planning
5804	Architectural history/Design	1	Architectural history
		2	Urban history
		3	Architectural theory
		4	Design
		5	Style
		6	Landscape/Environment
		7	Preservation/Renovation

Discipline: Material engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
5901	Physical properties of metals/Metal-base materials	1	Electronic/Magnetic properties
		2	Mechanical/Thermal/Optical properties
		3	Properties of surfaces/Interfaces/Thin films
		4	Magnetic/Electronic/Information Materials
		5	Superconductors/Semiconductors
		6	Amorphous/Metallic glasses/Quasicrystals
		7	First principles calculations/Material design simulations
		8	Atomic/Electronic structural characterization
		9	Diffusion/Phase transformation/Phase diagrams

（Discipline: Material engineering）

Item Number	Research Field	Screening Sub-panel Number	Keyword
5902	Inorganic materials/ Physical properties	1	Crystal structure/Microstructure control
		2	Mechanical/Electronic/Electromagnetic/Optical /Thermeal properties
		3	Surface/Interface control
		4	Functional ceramics
		5	Functional glasses
		6	Structural ceramics
		7	Carbon materials
		8	Dielectric materials
		9	Inorganic material synthesis and process
5903	Composite materials/ Surface and interface engineering	1	Functional composites
		2	Structural composites
		3	Hybrid/Smart/Biomaterials
		4	Surface/Interface/Grain boundary control
		5	Plasma/Laser/Surface treatment and process
		6	Durability/Environmental degradation/Monitoring/Evaluation
		7	Bonding/Adhesion/Welding
		8	Recyclable bonding/Composites
		9	Design/Fabrication process/Forming
		10	Complex polymer
5904	Structural/ Functional materials	1	Strength/Fracture toughness
		2	Reliability
		3	Energy materials
		4	Fuel cell/Electric cell materials
		5	Sensor materials/Optical functional materials
		6	Biomaterials/Medical materials/Welfare materials
		7	Multifunctional materials
		8	Infrastructure materials
		9	Functional polymeric materials
5905	Material processing/ Microstructural control engineering	1	Plastic forming/Shaping
		2	Mechanical/Thermal treatments
		3	Precision/Non-conventional process
		4	Crystal structure/Microstructure control
		5	Electrochemical process
		6	Powder process/Powder metallurgy
		7	Thin film/Plating/Wiring process
		8	Electrocatalysis
5906	Metal making/ Resource production engineering	1	Reaction/Separation/Refining
		2	Melting/Solidification
		3	Casting
		4	Crystal growth/Fabrication
		5	Various manufacturing process
		6	Ecological materials/Energy saving process
		7	Process for scarce resource substitution/Ubiquitous materials
		8	Environmental purification/Low environmental burden/Sustainable materials
		9	Recycling/Recycling process/Reuse/Transduction
		10	Resource separation/Safeguard/Securing

Discipline: Process/Chemical engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
6001	Properties in chemical engineering process/ Transfer operation/ Unit operation	1	Equilibrium/Transport properties
		2	Fluid/Heat transfer/Mass transfer operation
		3	Distillation
		4	Extraction
		5	Absorption
		6	Adsorption
		7	Ion exchange
		8	Membrane separation
		9	Hetero-phase separation
		10	Ultra high separation
		11	Stirring/Blending operation
		12	Granular and powdered materials operation
		13	Crystallization procedure
		14	Thin film/Microparticle forming operation
		15	Polymer processing

（Discipline: Process/Chemical engineering）

Item Number	Research Field	Screening Sub-panel Number	Keyword
6002	Reaction engineering/ Process system	1	Gas/Liquid/Solid/Supercritical fluid operation
		2	Novel reaction field
		3	Reaction rate
		4	Reaction mechanism
		5	Reaction apparatus
		6	Materials synthesis process
		7	Polymerization process
		8	Measurement
		9	Sensors
		10	Process control
		11	Processing system design
		12	Process information processing
		13	Process operation/Facilities management
6003	Catalyst/ Resource chemical process	1	Catalysis reaction
		2	Catalyst preparation chemistry
		3	Catalyst performance analysis
		4	Energy conversion process
		5	Fossil fuel effective utilization technology
		6	Resources/Energy effective utilization technology
		7	Resources/Energy saving technology
		8	Combustion technology
6004	Biofunction/ Bioprocess	1	Biocatalyst engineering
		2	Biofunction engineering
		3	Food engineering
		4	Medicochemical engineering
		5	Bioproduction process
		6	Environmental Bioprocess
		7	Micro/Nano Bioprocess
		8	Applied bioelectrochemistry
		9	Bioreactor
		10	Biosensor
		11	Bioseparation
		12	Biorefinery
		13	Bioinformatics

Discipline:Integrated engineering

Item Number	Research Field	Screening Sub-panel Number	Keyword
6101	Aerospace engineering	1	Aerodynamics
		2	Structure/Material
		3	Vibration/Strength
		4	Guidance/Navigation/Control
		5	Propulsion/Engine
		6	Flight dynamics
		7	Aerospace system
		8	Design/Instrumentation
		9	Special aircraft
		10	Space utilization/Exploration
		11	Aerospace environment
6102	Naval and maritime engineering	1	Propulsion/Vessel dynamics
		2	Material/Structural mechanics
		3	Ship and marine hydrodynamics
		4	Planning/Design/Production system
		5	Shipbuilding/Equipment
		6	Maritime transportation system
		7	Marine engine/Fuel
		8	Marine environment
		9	Marine resources/Energy
		10	Ocean exploration/Equipment
		11	Undersea and subsea engineering
		12	Polar engineering
		13	Maritime systems

（Discipline:Integrated engineering）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
6103	Earth system and resources engineering	1	Applied geology
		2	Geo-engineering
		3	Remote sensing
		4	Monitoring in Geo-engineering
		5	Earth systems
		6	Resource exploration
		7	Natural resource development
		8	Resource evaluation
		9	Mineral processing
		10	Underground disposal and storage
		11	Contaminated soil remediation
		12	Development and utilization of deep underground
		13	Material resources
		14	Renewable source/Energy
		15	Economic resources
6104	Nuclear fusion studies	1	Core plasma
		2	Peripheral/divertor plasma
		3	Plasma measurement
		4	Fusion theory/simulation
		5	Plasma-wall interaction
		6	Plasma facing component/Plasma heating device
		7	Fuel/Blanket
		8	Low activation material
		9	Electromagnet
		10	Inertial confinement fusion
		11	Fusion systems engineering
		12	Safety/Biological influence/Social environment
6105	Nuclear engineering	1	Radiation engineering/Beam science
		2	Reactor physics/Nuclear data
		3	Nuclear measurements/Radiation physics
		4	Thermo-Hydrodynamics
		5	Structure
		6	System design/Safety engineering
		7	Nuclear material/Nuclear fuel
		8	Isotope/Radiation chemistry
		9	Fuel cycle
		10	Backend
		11	Advanced reactors
		12	Health physics/Environmental safety
		13	Social environment of nuclear energy
6106	Energy engineering	1	Energy generation/conversion
		2	Energy transport/storage
		3	Energy saving/Efficient use of energy
		4	Energy system
		5	Environmental harmony
		6	Natural energy use

Category: Biological Sciences

Area: Biological Sciences

Discipline: Neuroscience

Item Number	Research Field			Screening Sub-panel Number / Keyword
6201	Neurophysiology / General neuroscience		1	Molecular and cellular neuroscience
			2	Developmental and regenerative neuroscience
			3	Neuroendocrinology
			4	Clinical neuroscience
			5	Neuroinformatics
			6	Behavioral neuroscience
			7	Computational neuroscience
			8	(Nervous) System physiology
			9	Somatic, visceral or special sensation
6202	Nerve anatomy/ Neuropathology	A [Neuroanatomy]		
			1	Neural network
			2	Neurohistology
			3	Molecular neurobiology
			4	Neural fine structure
			5	Neurohistochemistry and neurocytochemistry
			6	Neural development and its abnormality
			7	Neural regeneration, remodeling and plasticity
			8	Experimental morphology of the nervous system
			9	Anatomical study of neuroimaging
			10	Neurocytology
		B [Neuropathology]		
			11	Cellular neuropathology
			12	Molecular neuropathology
			13	Neurodegenerative diseases
			14	Developmental or metabolic disorders
			15	Demented disorders
			16	Cerebrovascular disorders
			17	Brain tumors
			18	Spinal, peripheral nervous system or muscular disorders
6203	Neurochemistry/ Neuropharmacology		1	Molecular and cellular neurobiology
			2	Development, differentiation, and aging
			3	Neurotransmitters and receptors
			4	Intracellular signal transduction
			5	Glial cells
			6	Pathophysiology and therapy of neuropsychiatric diseases
			7	Stem cell biology, regeneration, and repair
			8	Neural plasticity
			9	Neuropharmacology
			10	Drug development
			11	Genomic neuroscience

Discipline:Laboratory animal science

Item Number	Research Field		Screening Sub-panel Number / Keyword
6301	Laboratory animal science	1	Environmental facilities
		2	Infectious diseases
		3	Cryopreservation
		4	Biosafety
		5	Disease models
		6	Breeding genetics
		7	Developmental engineering
		8	Laboratory animal welfare
		9	Animal experiment technology
		10	Bioresource for research
		11	Evaluation methods

Discipline: Oncology

Item Number	Research Field			Screening Sub-panel Number / Keyword
6401	Tumor biology	A	1	Genome instability
			2	Epigenetics
			3	Cancer genome analysis
			4	Carcinogenesis
			5	Inflammation and cancer
			6	Laboratory animal models
			7	Genetically-modified animals
			8	Oncogene
			9	Tumor suppressor gene
			10	Signal transduction
			11	DNA replication
			12	Cell cycle
			13	Cancer and heredity
			14	Apoptosis
			15	Cell polarity
			16	Cell adhesion and movement
			17	Invasion and metastasis
			18	Characteristics of cancer cells
			19	Cancer microenvironment
			20	Angiogenesis
			21	Lymphangiogenesis
			22	Stem cells
			23	Cellular senescence
			24	Cellular immortalization
		B	25	Epidemiologic study
			26	Biobank
			27	Interaction of gene and environment
			28	Prevention and intervention study
			29	Chemoprophylaxis
			30	Interface of cancer research and society
6402	Tumor diagnostics		1	Genome analysis
			2	Proteomics analysis
			3	Expression analysis
			4	Individuality diagnosis of cancer
			5	Order-made medical treatment
			6	Drug efficacy and calculation
			7	Biomarkers
			8	Tumor markers
			9	Molecule imaging
			10	Epigenome
			11	miRNA
			12	Functional RNA
6403	Tumor therapeutics		1	Antitumor substance research and chemical biology
			2	Chemotherapy
			3	Molecular target therapy
			4	Endocrine therapy
			5	Drug delivery
			6	Physical therapy
			7	Gene therapy
			8	Nucleic acid therapy
			9	Cell therapy
			10	Humoral immunity
			11	Cell immunity
			12	Antibody therapy
			13	Immunotherapy
			14	Vaccine therapy
			15	Adoptive immunotherapy
			16	Cytokine
			17	Immunosuppression
			18	Immune activation

Discipline:Genome science

Item Number	Research Field	Screening Sub-panel Number	Keyword
6501	Genome biology	1	Genome structural diversity
		2	Animal genome
		3	Plant genome
		4	Microbial genome
		5	Metagenome
		6	Organelle genome
		7	Genome evolution
		8	Genome architecture
		9	Genome maintenance and repair
		10	Expression of genome function
		11	Regulation of gene expression
		12	Transcriptome
		13	Proteome
		14	Metabolome
		15	Epigenome
		16	Comparative genome
		17	Biodiversity
6502	Medical genome science	1	Disease-associated gene
		2	Personalized medicine
		3	Gene diagnosis
		4	Human genome diversity
		5	Genome medicine
		6	Regenerative medicine
		7	Genome-wide association study
		8	Human genome resequencing
		9	Genome of model animals
		10	Disease epigenomics
		11	Human population genetics
		12	Statistical genetics
		13	Medical informatics
		14	Human and animal bacterial flora
6503	System genome science	1	Gene networks
		2	Protein networks
		3	Metabolic networks
		4	Development and differentiation
		5	Synthetic biology
		6	Database biology
		7	Biological databases
		8	Modeling and simulation
		9	Bioinformatics
		10	Genome analysis technology
		11	Functional RNA
		12	Epigenomic control
		13	Genome biotechnology
		14	Genetic resources

Discipline:Conservation of biological resources

Item Number	Research Field	Screening Sub-panel Number	Keyword
6601	Conservation of biological resources	1	Conservation biology
		2	Biodiversity conservation
		3	Conservation of biological strains
		4	Conservation of genetic resources
		5	Ecosystem conservation
		6	Native species conservation
		7	Microbial culture collections
		8	Cell/Tissue/Seed Preservation

Area: Biology

Discipline: Biological Science

Item Number	Research Field	Screening Sub-panel Number	Keyword
6701	Molecular biology	1	Chromosomal organization,function and segregation
		2	Epigenetics
		3	Chromatin dynamics
		4	DNA replication
		5	DNA damage and repair
		6	Recombination
		7	Transcription and transcriptional regulation
		8	Post-transcriptional regulation
		9	RNA
		10	Translation
		11	Post-translational modification
		12	Super-molecular complex
6702	Structural biochemistry	1	Carbohydrate
		2	Lipid
		3	Nucleic acid
		4	Protein
		5	Enzyme
		6	Gene and chromosome
		7	Biological membrane and receptor
		8	Intercellular matrix
		9	Organelle
		10	Posttranslational modification
		11	Molecular recognition and interaction
		12	Denaturation and folding
		13	Structural analysis and prediction
		14	NMR
		15	Mass spectrometry
		16	X-ray crystallography
		17	High-resolution electron microscopy
6703	Functional biochemistry	1	Catalytic mechanism of enzyme
		2	Regulation of enzyme
		3	Gene expression and replication
		4	Biological energy transduction
		5	Metalloprotein
		6	Biological trace element
		7	Hormone and bioactive substances
		8	Cell signal transduction
		9	Membrane transport and transporters
		10	Proteolysis
		11	Cytoskeleton
		12	Immunobiochemistry
		13	Glycobiology
		14	Bioelectrochemistry
6704	Biophysics	1	Structures、dynamics and functions of proteins and nucleic acids
		2	Motility/Transport
		3	Biomembranes/Receptors/Channels
		4	Photobiology
		5	Cellular signaling and dynamics
		6	Neural information processing
		7	Theoretical biology/Bioinformatics
		8	Structural biology
		9	Folding
		10	Prediction of structure and function
		11	Single-molecule measurements and manipulation
		12	Bioimaging
		13	Non-equilibrium/Complex systems

（Discipline: Biological Science）

Item Number	Research Field		Screening Sub-panel Number / Keyword
6705	Cell biology	1	Cell structure and function
		2	Biomembrane
		3	Cytoskeleton/Cell motility
		4	Intracellular signaling
		5	Intercellular communication
		6	Cell cycle
		7	Cytokinesis
		8	Nuclear structure and function
		9	Cell-cell interaction/Extracellular matrix
		10	Protein degradation
		11	Chromatin
		12	Organella-genesis and dynamics
6706	Developmental biology	1	Cell differentiation
		2	Stem cells
		3	Germ layer formation and gastrulation
		4	Organogenesis
		5	Fertilization
		6	Germ cells
		7	Regulation of gene expression
		8	Developmental genetics
		9	Evolution and development

Discipline:Basic biology

Item Number	Research Field		Screening Sub-panel Number / Keyword
6801	Plant molecular biology/Plant physiology	1	Plastid function/Photosynthesis
		2	Phytohormones/Growth and development/Totipotency
		3	Organelles/Cell wall
		4	Response to environmental factors
		5	Plant-microbe interaction/Symbiosis
		6	Metabolism
		7	Plant molecular function
6802	Morphology/ Structure	1	Animal morphology
		2	Plant morphology
		3	Microorganisms and algae morphology
		4	Comparative endocrinology
		5	Molecular morphology
		6	Morphogenesis and simulation
		7	Tissue construction
		8	Microstructure
		9	Microscopic techniques and imaging
6803	Animal physiology/ Animal behavior	1	Metabolism
		2	Neurobiology
		3	Neuroethology
		4	Behavioral physiology
		5	Animal physiology and biochemistry
6804	Genetics/ Chromosome dynamics	1	Cytogenetics
		2	Population genetics
		3	Evolutionary genetics
		4	Human genetics
		5	Genetic diversity
		6	Developmental genetics
		7	Behavioral genetics
		8	Mutagenesis
		9	Chromosome rearrangement and maintenance
		10	Model organism development
		11	Transposon
		12	QTL analysis
		13	Epigenetics

（Discipline:Basic biology）

Item Number	Research Field		Screening Sub-panel Number / Keyword
6805	Evolutionary biology	1	Origin of life
		2	Origin of eukaryotic organisms
		3	Origin of organelles
		4	Origin of multicellularity
		5	Molecular evolution
		6	Morphological evolution
		7	Evolution of function
		8	Evolution of genes
		9	Evolutionary biology in general
		10	Comparative genomics
		11	Experimental evolutionary biology
6806	Biodiversity/ Systematics	1	Metabolism physiology
		2	Classification system
		3	Evolution
		4	Genetic diversity
		5	Population/Species diversity
		6	Community/Ecosystem diversity
		7	Taxonomic character
		8	Phylogenetics
		9	Speciation
		10	Natural history
		11	Museum
6807	Ecology/ Environment	1	Population
		2	Society
		3	Species interaction
		4	Assemblage
		5	Ecosystem
		6	Evolutionary ecology
		7	Behavioral ecology
		8	Natural environment
		9	Physiological ecology
		10	Molecular ecology
		11	Conservation ecology

Discipline:Anthropology

Item Number	Research Field		Screening Sub-panel Number / Keyword
6901	Physical anthropology	1	Morphology
		2	Prehistory/Chronology
		3	Biomechanism
		4	Molecular anthropology/Genetics
		5	Ecology
		6	Primates
		7	Evolution
		8	Growth/Aging
		9	Society
		10	Behavior/Cognition
		11	Reproduction/Development
		12	Bone archaeology
		13	Geographic diversity
6902	Applied anthropology	1	Physiological anthropology
		2	Ergonomics
		3	Physiological polymorphism
		4	Environmental adaptive capacity
		5	Systemic relationship
		6	Functional potential
		7	Techno-adaptability
		8	Somatometry
		9	Clothing
		10	Somatology/Adaptation
		11	Constitution/Health
		12	Forensic anthropology
		13	Medical anthropology

Area: Agricultural sciences

Discipline: Plant production and environmental agriculture

Item Number	Research Field		Screening Sub-panel Number / Keyword
7001	Science in genetics and breeding	1	Gene expression control/Epigenomics
		2	Gene regulatory network
		3	Omics analysis
		4	Transposon
		5	Organelle
		6	Growth/Developmental genetics
		7	Genome/Chromosome analysis
		8	Reproduction/Hybrid/Ploidy genetics
		9	Environmental stress
		10	Biotic stress
		11	Yield/Biomass
		12	Processing suitability/Quality improvement
		13	Genetic/Breeding resources/Biodiversity
		14	Genetic map/QTL analysis
		15	Gene introduction/mutagenesis
		16	Genome breeding/DNA marker-assisted selection
		17	Breeding theories/Bioinformatics
		18	Genetically engineered crop production/Assessment
7002	Crop production science	1	Food crops
		2	Industrial crops
		3	Forage and grassland crops
		4	Biofuel plants
		5	Resource plants
		6	Cultivation/Cropping system
		7	Farming system
		8	Crop quality/Palatability
		9	Weed science
		10	Weed control
		11	Allelochemicals
		12	Organic farming
		13	Environmentally friendly crop production
		14	Phytoremediation
		15	Management of uncultivated field
		16	Soil fertility management
		17	Stress responses
		18	Growth environment/Climatic variation
		19	Growth forecasting/Modeling
7003	Horticultural science	1	Fruit trees
		2	Vegetable crops
		3	Ornamental and landscape plants
		4	Plant production technology
		5	Transgenic and molecular biological technology
		6	Horticultural genomics and bioinformatics
		7	Pollination/Fertilization/Embryogenesis
		8	Fruit growth and ripening
		9	Plant growth failure and physiological disorders
		10	Plant growth regulators
		11	Plant pigments, aromatic compounds, and functional ingredients
		12	Environmental response and control
		13	Protected horticulture and plant factory
		14	Postharvest and processing technologies
		15	Stock and seed production, and plant propagation
		16	Plant hunting and plant genetic resources
		17	Biometrics and horticultural robotics
		18	Horticultural well-being and horticultural therapy

(Discipline: Plant production and environmental agriculture)

Item Number	Research Field		Screening Sub-panel Number / Keyword
7004	Plant protection science	A	1 Plant pathogens
			2 Nematode and parasitic higher plants
			3 Genome
			4 Phylogenetic systematics/Evolution
			5 Pathogenicity and virulence
			6 Resistance
			7 Disease occurrence
			8 Diagnosis of plant diseases
			9 Identification
			10 Disease control and treatment of disorder
			11 Infection・ecology・vectors
			12 Host specificity
			13 Plant pathological physiology
			14 Plant-microbe interactions
			15 Plant physiological diseases
			16 Postharvest diseases
			17 Breeding of tolerant crops
			18 RNA silencing
			19 Endophyte and mycorrhizal fungus/symbiotic bacteria
		B	20 Agricultural chemicals and biological control agents
			21 Drug and herbicide-resistance
			22 Disorder by agricultural chemicals
			23 Plant growth regulators and plant activators
			24 Natural bioactive substances
			25 Disease and insect pest management
			26 Mite and nematode management
			27 Weed management
			28 Introduced plants
			29 Allelopathy
			30 Integrated pest management
			31 Insect vectors
			32 Insect pest population
			33 Natural enemy
			34 Invasive insects and pathogens
			35 Insect taxonomy
			36 Occurrence forecast
			37 Management of birds and beasts
			38 Environmental stress responses / tolerance
			39 Plant growing environment
			40 Physical and cultural pest control
			41 Diseases- and insect pest-resistant crops
			42 Plant wound responses
			43 Insect–plant interactions

Discipline: Agricultural chemistry

Item Number	Research Field		Screening Sub-panel Number / Keyword
7101	Plant nutrition/ Soil science	1	Plant physiology, growth and development
		2	Plant nutrition and metabolism
		3	Plant metabolic regulation
		4	Plant molecular physiology
		5	Fertilizer
		6	Pedogenesis/Soil classification
		7	Soil physics
		8	Soil chemistry
		9	Soil organisms
		10	Soil environment
		11	Soil ecology
		12	Soil fertility
		13	Soil pollution control

（Discipline: Agricultural chemistry）

Item Number	Research Field	Screening Sub-panel Number / Keyword		
7102	Applied microbiology		1	Microbial classification
			2	Fermentative production
			3	Microbial physiology
			4	Microbial genetics/breeding
			5	Microbial enzyme
			6	Microbial metabolism
			7	Microbial function
			8	Microbial application
			9	Environmental microorganism
			10	Secondary metabolite production
			11	Microbial ecology
			12	Control of microbe
			13	Genetic resources
			14	Gene expression
			15	Metabolic engineering
			16	Environmental and cellular responses
			17	Microbial genomics
7103	Applied biochemistry		1	Animal biochemistry
			2	Plant biochemistry
			3	Enzyme application
			4	Genetic engineering
			5	Protein engineering
			6	Structural biology
			7	Bioengineering
			8	Metabolic engineering
			9	Enzyme chemistry
			10	Glycoscience / Lipid science
			11	Cell/Tissue culture
			12	Metabolism and physiology
			13	Gene expression
			14	Production of useful material
			15	Cellular response
			16	Signal transduction
			17	Trace element
7104	Biooragnic chemistry		1	Bioactive substance
			2	Regulator of cell function
			3	Pesticide science
			4	Plant growth substance
			5	Signal molecule
			6	Biosynthesis
			7	Natural products chemistry
			8	Chemical biology
			9	Physical chemistry
			10	Analytical chemistry
			11	Synthetic organic chemistry
			12	Bioregulatory chemistry
			13	Molecular recognition
			14	Structure-activity relationship
7105	Food science	1	1	Food chemistry
			2	Food biochemistry
			3	Food function
			4	Nutritional chemistry
			5	Nutritional biochemistry
			6	Molecular biology of nutrition
			7	Nutrigenomics
		2	8	Food physics
			9	Food analysis
			10	Food engineering
			11	Food manufacturing/processing
			12	Food storage
			13	Food safety

Discipline: Forest and forest products science

Item Number	Research Field	Screening Sub-panel Number / Keyword	
7201	Forest science	1	Ecology/Biodiversity
		2	Genetics/Breeding
		3	Physiology
		4	Taxonomy
		5	Environment
		6	Silviculture
		7	Pathology/Microorganism
		8	Insect/Animal
		9	Planning/Management
		10	Policy/Economics
		11	Sustainable forestry
		12	Operational system/Road/Machinery
		13	Erosion control/Slope conservation and torrent disaster prevention/Revegetation
		14	Water resource/Hydrologic cycle
		15	Material circulation/Flux
		16	Climate change/Carbon balance
		17	Biomass
		18	Landscape ecology/Landscape design/Landscape management
		19	Environmental education/Forest education
7202	Wood science	1	Wood anatomy
		2	Wood formation/Physical properties
		3	Cellulose/Hemicellulose
		4	Lignin
		5	Extractives/Bioactive component
		6	Microbiology
		7	Mashroom/Wood rotting fungi
		8	Chemical processing/Adhesion
		9	Preservation/Wood culture
		10	Wood drying
		11	Machining
		12	Wood based material
		13	Strength/Wooden construction
		14	Habitability
		15	Forest product education
		16	Woody biomass
		17	Pulp and paper

Discipline: Applied aquatic science

Item Number	Research Field		Screening Sub-panel Number	Keyword
7301	Aquatic bioproduction science	A	1	Aquatic environment
			2	Biological environment
			3	Environmental conservation
			4	Water/Sediment quality
			5	Ocean/Material cycle
			6	Seaweed beds/Tidal flats
			7	Restoration/Regeneration
			8	Environmental microbiology
			9	Plankton
			10	Nekton
			11	Benthos
			12	Red tide
			13	Environmental toxicology
			14	Aquatic ecosystem
			15	Global warming
			16	Biodiversity
			17	Remote sensing
		B	18	Taxonomy/Morphology
			19	Ecology/Ethology
			20	Bio-logging
			21	Resources/Resource management
			22	Fisheries
			23	Aquaculture
			24	Aquatic animals
			25	Aquatic plants
			26	Genetics/Heredity/Breeding
			27	Fish disease/Aquatic pathology
			28	Fisheries Engineering
			29	Fishing community/Fisheries Policy
			30	Fisheries Economics/Management/Marketing
			31	Fisheries education
			32	Fisheries Development
7302	Aquatic life science		1	Developmental biology
			2	Physiology
			3	Immunology/Biological defense
			4	Metabolism/Enzyme
			5	Fish nutrition
			6	Biochemistry
			7	Molecular biology
			8	Marine genomics
			9	Genetic resources
			10	Bioengineering
			11	Functional microbiology
			12	Glycobiology
			13	Chemical biology
			14	Biomimetics
			15	Bioactive substance
			16	Natural products chemistry
			17	Biopolymer
			18	Analytical chemistry
			19	Aquatic food chemistry
			20	Functional food
			21	Aquatic food processing/Preservation
			22	Food microbiology
			23	Food hygiene and sanitation
			24	Aquatic biotoxin
			25	Food safety
			26	Zero emission
			27	Aquatic biomass utilization
			28	Bioenergy

Discipline: Agricultural science in society and economy

Item Number	Research Field	Screening Sub-panel Number	Keyword
7401	Agricultural science in management and economy	1	Food Self-Sufficiency and Food Security
		2	Food Economy
		3	Economy and Planning of Rural Community and Fishing Village
		4	Agriculture Related Industries
		5	Economy of Food, Agriculture and Environment
		6	Food Policy
		7	Policy for Agriculture, Forestry and Fishery
		8	International Food Economy and Trade
		9	Investment and Finance for Agriculture, Forestry and Fishery
		10	Distribution of Food and Agriculture and Fishery Products
		11	Food System
		12	Food Safety and Risk Management
		13	Management in Agriculture, Forestry and Fishery
		14	Assessment of Technology and Knowledge in Agriculture, Forestry and Fishery
		15	Management, Diagnosis and Evaluation on Business
		16	Land Utilization
		17	Value Added to Agricultural Product
		18	Marketing
		19	Management Ethics and CSR
		20	Cooperative Farming in Community
		21	Organizational Support to Agriculture, Forestry and Fishery
		22	Driving Force for Management
		23	Information System for Food and Agriculture
		24	Entry of Enterprise into Agriculture
		25	Agricultural Extension
7402	Agricultural science in rural society and development	1	Rural Society
		2	Rural Life
		3	Direct Linkage with Production and Consumption in Local Area
		4	Education for Food and Agriculture
		5	Leader in Rural Community and NPO
		6	Interaction between Urban and Rural Inhabitant
		7	Women Participation in Agriculture and Social Activities
		8	Society and Culture in Rural Community
		9	Multiple Functions in Agriculture and Rural Community
		10	Agricultural History and Comparison on Farming System
		11	Ideology and Ethics in Agriculture
		12	International Agriculture
		13	International Development for Rural Community and Fishing Village
		14	Project Management for Rural Development
		15	Extension and Transfer on Technology
		16	Dietary Transition
		17	Commons

Discipline: Agro-engineering

Item Number	Research Field		Screening Sub-panel Number / Keyword	
7501	Rural environmental engineering/ Planning		1	Irrigation and drainage
			2	Reclamation and conservation of agricultural land
			3	Rural planning
			4	Rural environment
			5	Rural landscape and ecosystem
			6	Rural development and sustainability
			7	Material and energy cycle management
			8	Water resources
			9	Renewable Energy
			10	Rural governance
			11	Disaster prevention
			12	Soil environmental conservation
			13	Agricultural facilities and stock management
			14	Rural roads
			15	Rural sewerage
			16	International agriculture and rural development
			17	Hydraulics
			18	Hydrometeorology
			19	Water environment
			20	Soil physics
			21	Soil mechanics
			22	Applied mechanics
			23	Design and construction materials
7502	Agricultural environmental engineering/ Agricultural information engineering		1	Bioproduction system
			2	Bioproduction machinery
			3	Greenhouse horticulture/Plant factory
			4	Environment control in biology
			5	Bioprocessing
			6	Agricultural production environment
			7	Agricultural meteorology/Micrometeorology
		A	8	Meteorological disasters
			9	Global environment and global warming
			10	Environmental remediation and greening process
			11	Renewable energy
			12	Farming technology management
			13	Agricultural labour science
			14	Postharvest engineering
			15	Supply chain management
			16	Bioinstrumentation
			17	Cell measurement techniques
			18	Nondestructive measurement
			19	Imaging analysis
			20	Environmental stresses
			21	Biosensing
			22	Image information and image recognition
			23	Agribioinformatics
		B	24	Remote sensing
			25	Geographic information system
			26	Modeling/Simulation
			27	Computer network and ICT
			28	Agricultural robotics
			29	Precision agriculture
			30	Bioenvironmental information
			31	Agricultural information
			32	Farming information

Discipline: Animal life science

Item Number	Research Field		Screening Sub-panel Number / Keyword	
7601	Animal production science	A	1	Breeding
			2	Reproduction
			3	Nutrition/Feeding
			4	Feed/Feedstuff
			5	Metabolism/Endocrine control
		B	6	Animal hygiene
			7	Animal management/Welfare
			8	Environment
			9	Facilities/Production system
			10	Grassland/Pasture
			11	Grazing
			12	Animal product
			13	Manure management
			14	Livestock biomass
			15	Livestock farming
			16	Marketing of livestock products
7602	Veterinary medical science	A	1	Pathology
			2	Pathophysiology
			3	Pharmacology
			4	Toxicology
			5	Pathogenic microorganism
			6	Zoonosis
			7	Parasitology
			8	Veterinary public health
			9	Epidemic prevention
			10	Epidemiology
		B	11	Internal medicine
			12	Surgery
			13	Veterinary reproduction/Obstetrics
			14	Diagnostics/Laboratory examination
			15	Clinical pathology
			16	Therapy/Nursing
			17	Disease prevention and control
			18	Anesthesia/Analgetics
			19	Radiology
			20	Animal welfare/Ethics
7603	Integrative animal science	A	1	Physiology
			2	Histology
			3	Anatomy
			4	Endocrinology
			5	Cellular function
			6	Immunology
			7	Host defense
			8	Genetics
			9	Epigenetics
			10	Genome
			11	Development/Differentiation
			12	Bioinformatics
			13	Ecology
			14	Ethology
			15	Psychology
		B	16	Genetic engineering
			17	Cellular engineering
			18	Developmental biotechnology
			19	Stem cell
			20	Regenerative therapy
			21	Imaging
			22	Wildlife
			23	Experimental animal
			24	Animal models of disease
			25	Companion animal
			26	Animal-assisted therapy
			27	Bioresource
			28	Biodiversity

Discipline: Boundary agriculture

Item Number	Research Field			Screening Sub-panel Number / Keyword
7701	Insect science		1	Insect technology and biomaterial production
			2	Sericulture, silk
			3	Insect pathology
			4	Entomopathogenic microbes and viruses
			5	Insect ecology
			6	Insect physiology and biochemistry
			7	Insect molecular biology
			8	Insect behavior
			9	Insect population, community
			10	Insect evolution and systematics
			11	Insect genetics and genomics
			12	Insect development and reproduction
			13	Life history, seasonal adaptation
			14	Chemical ecology
			15	Chemical and physical communications
			16	Symbiosis, parasitism
			17	Spiders, mites, nematodes
			18	Apiculture
			19	Pollination
			20	Social insects
			21	Insect mimetics
7702	Environmental agriculture (including landscape science)	A	1	Biomass
			2	Biological environment
			3	Genetic resource
			4	Biodiversity
			5	Environmental analysis
			6	Environmental remediation
			7	Environmental purification
			8	Aquatic pollution
			9	Environmental adaptability
			10	Ecosystem services
			11	Resources-Environment balance
			12	Resource recycling systems
			13	Environmental value-assessment
			14	Low-carbon society
			15	LCA
			16	Environmentally friendly agriculture
			17	Watershed management
			18	Integrated agriculture and fisheries
			19	Regional agriculture
		B	20	Landscape design
			21	Landscape architecture
			22	Open space planning
			23	Landscape formation/Landscape conservation
			24	Cultural landscape
			25	Nature conservation/Nature restoration
			26	Urban environmental design
			27	Natural environmental assessment
			28	Biotope
			29	Public interest functions of ecosystem
			30	Landscape ecology
			31	Urban farmland
			32	Open space management
			33	Urban park/Disaster prevention park
			34	National park
			35	Planting engineering
			36	Urban green plant
			37	Tourism/Green-tourism, recreation
			38	Participatory town planning
			39	Social and environmental contribution green

Item Number	Research Field		Screening Sub-panel Number / Keyword
7703	Applied molecular and cellular biology	1	Cell biology
		2	Chromosome engineering
		3	Glycosylation engineering
		4	Organelle engineering
		5	Cell / Tissue engineering
		6	Epigenetics
		7	Gene expression
		8	Development/Differentiation control
		9	Cell-cell interaction
		10	Intermolecular interaction
		11	Biological interaction
		12	Biosensor
		13	Cellular function
		14	Molecular imformation
		15	Functional-molecule design
		16	Proteomics
		17	Metabolomics
		18	Production of useful material
		19	Culture engineering
		20	Biologics

Area: Medicine, dentistry, and pharmacy

Discipline: Pharmacy

Item Number	Research Field	Screening Sub-panel Number	Keyword
7801	Chemical pharmacy	1	Organic chemistry
		2	Synthetic organic chemistry
		3	Biomolecules
		4	Natural products chemistry
		5	Mechanistic organic chemistry
		6	Heterocyclic chemistry
		7	Asymmetric synthesis
7802	Physical pharmacy	1	Physical chemistry
		2	Analytical chemistry
		3	Galenical pharmacy
		4	Biophysical chemistry
		5	Isotope pharmacentical chemistry
		6	Biocomplex chemistry
		7	Molecular structure science
		8	Structural biology
		9	Imaging
		10	Drug delivery
		11	Information science
7803	Biological pharmacy	1	Biochemistry
		2	Molecular biology
		3	Immunology
		4	Cell biology
		5	Developmental biology
		6	Functional genomics
		7	Physiological chemistry
		8	Endocrinology
7804	Pharmacology in pharmacy	1	Pharmacology
		2	Analytical pharmacology
		3	Neurobiology
		4	Drug therapeutics
		5	Cellular signal transduction
		6	Toxicology and drug safety
		7	Systems pharmacology
		8	Pharmacogenomics
7805	Natural medicines	1	Pharmacognosy
		2	Medicinal resources
		3	Natural medicines
		4	Traditional Chinese-Japanese medicines
		5	Ethnomedicines
		6	Biosynthesis
		7	Antibiotics and microbial medicines
		8	Bioactive natural compounds
		9	Medicinal foods
7806	Drug development chemistry	1	Medicinal chemistry
		2	Medicinal molecular design
		3	Lead discovery
		4	Functional science of medicinal molecules
		5	Genomic drug development
		6	Regulatory science
		7	Chemical biology
		8	Biopharmaceutical
7807	Environmental and hygienic pharmacy	1	Environmental hygiene
		2	Environmental chemistry
		3	Environmental dynamics
		4	Food hygienics
		5	Chemical nutrition
		6	Microbiology and infectious diseases
		7	Toxicology
		8	Environmental toxicology
		9	Cosmetic and fragrance science
		10	Hygienic tests

（Discipline: Pharmacy）

Item Number	Research Field	Screening Sub-panel Number	Keyword
7808	Medical pharmacy	1	1 Pharmacokinetics
			2 Drug metabolism
			3 Transporter
			4 Screening system for pharmacokinetics and metabolism
			5 Prediction system for human pharmacokinetics and metabolism
			6 Clinical chemistry
			7 Personalized medicine
		2	8 Clinical pharmaceutical sciences
			9 Medical pharmaceutics
			10 Drug information and clinical toxicology
			11 Drug economics
			12 Social pharmacy
			13 Hospital pharmacy and pharmacy administration
			14 Clinical pharmacy education

Discipline: Basic medicine

Item Number	Research Field	Screening Sub-panel Number	Keyword
7901	General anatomy (including histology/ embryology)	1	1 Gross anatomy
			2 Functional anatomy
			3 Clinical anatomy
			4 Comparative anatomy
			5 Radiological anatomy
			6 Morphogenesis and embryogenesis
			7 Teratology
			8 Experimental morphology
			9 Anatomical education
		2	10 Cytology
			11 Histology
			12 Cell differentiation and tissue formation
			13 Cell function and morphology
			14 Ultrastructural morphology
			15 Molecular morphology
			16 Histocytochemistry
			17 Microscopic technology
7902	General physiology	1	1 Molecular and cellular physiology
			2 Biological membrane, channel, transporter and active transport
			3 Receptor and intracellular signal transduction
			4 Stimulation-secretion coupling
			5 Epithelial function
			6 Heredity, fertilization, development and differentiation
			7 Cellular proliferation and cell death
			8 Cellular motility, morphogenesis and intercellular interaction
			9 Microcirculation, peripheral circulation, circulation dynamics and regulation
			10 Ventilation mechanics, blood gas function and respiratory control
			11 Gastrointestinal motility, absorption and digestion
			12 Renal function, body fluids, and acid-base balance
			13 Blood coagulation and rheology
			14 Pathophysiology
			15 System physiology and physiome
			16 Comparative, developmental and genome physiology
			17 Muscular physiology

(Discipline: Basic medicine)

Item Number	Research Field	Screening Sub-panel Number / Keyword		
7903	Environmental physiology (including physical medicine and nutritional physiology)		1	Environmental physiology
			2	Physical medicine
			3	Nutritional physiology
			4	Adaptive and associative physiology
			5	Biorhythm
			6	Growth, development, and aging
			7	Stress
			8	Space medicine
			9	Behavioral physiology
			10	Biological clock
			11	Hyperthermia physiology
			12	Feeding regulation
			13	Sleep and arousal
			14	Reproductive physiology
7904	General pharmacology		1	Kidney
			2	Smooth muscle and skeletal muscle
			3	Gastrointestinal
			4	Inflammation and immunity
			5	Bioactive substance
			6	Central nervous system and peripheral nerve
			7	Spinal cord and pain
			8	Receptor, channel, transport system, and signal transduction system
			9	Cardiovascular system and hematology
			10	Drug discovery and pharmacogenomics
			11	Drug therapy and toxicology
			12	Herbal medicine and pharmacology of natural products
7905	General medical chemistry		1	Biomolecular medicine
			2	Cellular biochemistry (cellular medical chemistry)
			3	Genomic biochemistry (genomic medical chemistry)
			4	Developmental medicine
			5	Regenerative medicine
			6	Aging medicine
			7	Higher order life sciences
			8	Intracellular signaling
7906	Pathological medical chemistry		1	Abnormal metabolism
			2	Molecular pathogenesis
			3	Molecular and gene diagnosis
			4	Molecular oncology
			5	Molecular pathogenesis of nutrition
7907	Human genetics		1	Medical genome science
			2	Molecular genetics
			3	Cytogenetics
			4	Genetic biochemistry
			5	Genetic epidemiology
			6	Genetic diagnostics
			7	Gene therapy
			8	Social genetics
			9	Epigenetics
7908	Human pathology	1	1	Digestive system and salivary gland
			2	Urogenital and endocrine organs
		2	3	Brain and nervous system
			4	Respiratory and mediastinal organs
			5	Cardiovascular system
			6	Bone, joint, muscle, skin and sense organs
			7	Blood
		3	8	Diagnostic pathology
			9	Diagnostic cytopathology
			10	Diagnostic molecular pathology
			11	Diagnostic immunopathology
			12	Environmental pathology
			13	Transplantation pathology

(Discipline: Basic medicine)

Item Number	Research Field	Screening Sub-panel Number / Keyword		
7909	Experimental pathology	1	1	Cell injury
			2	Tumors
			3	Genetic disorders
			4	Environmental diseases
			5	Regenerative medicine
		2	6	Inflammation
			7	Hemodynamic disorders
			8	Immune diseases
			9	Infectious diseases
			10	Metabolic diseases
			11	Pediatric pathology
			12	Animal models
7910	Parasitology (including sanitary zoology)		1	Helminth
			2	Protozoa
			3	Arthropod vector
			4	Pathogenic animals
			5	International health
			6	Molecules and cells
			7	Development and genetics
			8	Epidemiology
			9	Diagnosis and treatment
			10	Prevention and control
7911	Bacteriology (including mycology)		1	Genomes and genetics
			2	Structure and physiology
			3	Classification
			4	Pathogenicity
			5	Toxins and effectors
			6	Drug resistance
			7	Epidemiology
			8	Diagnosis and treatment
			9	Prevention and control
7912	Virology		1	Molecules and structure
			2	Cells and replication
			3	Organisms and pathogenicity
			4	Epidemiology
			5	Diagnosis and treatment
			6	Prevention and control
			7	Prions
7913	Immunology		1	Cytokines
			2	Signal transduction
			3	Antibodies and complements
			4	Innate immunity
			5	Acquired immunity
			6	Mucosal immunity
			7	Immunological memory
			8	Immune tolerance and autoimmunity
			9	Immune surveillance and tumor immunology
			10	Immunodeficiency
			11	Allergy and immune-related disorder
			12	Infection immunity
			13	Inflammation
			14	Immunoregulation and transplantation immunology

Discipline: Boundary medicine

Item Number	Research Field	Screening Sub-panel Number / Keyword		
8001	Medical sociology		1	Bioethics
			2	Medical, Dental and Pharmaceutical Education
			3	Medical history
			4	Health economics
			5	Medical behavioral science

（Discipline: Boundary medicine）

Item Number	Research Field			Screening Sub-panel Number / Keyword
8002	Applied pharmacology		1	Clinical pharmacology
			2	Clinical trials and ethics
			3	Pharmaceutical therapeutics
			4	Adverse drug reaction and drug interaction
			5	Drug transport mechanism
			6	Pharmacogenomics
			7	Clinical isotope pharmacy
			8	Medical devices and pharmacy
			9	Drug metabolic enzyme and tranporter
			10	Imaging
			11	Research using human tissue
			12	Drug dependence and drug sensitivity
			13	Genetic diagnosis and gene therapy
			14	Drug delivery
			15	Pharmacoepidemiology
8003	Laboratory medicine	1	1	Clinical laboratory medicine
			2	Clinical pathology
			3	Clinical chemistry
			4	Immunology and serology
			5	Clinical laboratory system
		2	6	Genetic testing
			7	Clinical microbiology
			8	Laboratory oncology
			9	Clinical hematology
			10	Physiological laboratory testing
8004	Pain science		1	Evaluation methods of pain
			2	Epidemiology of pain
			3	Analgesic
			4	Non-drug therapy
			5	Pain producing substance (PPS), Algesic substance
			6	Generating or exacerbating mechanism of pain
			7	Neural mechanism of pain
			8	Hyperalgesia
			9	Genetic factors of pain
			10	Development or aging factors of pain
			11	Gender difference in pain
			12	Pain withdrawal reflex
			13	Numbness, Hypesthesia
			14	Nociceptor
			15	Histopathic pain, Histotoxic pain
			16	Neuropathic pain, Neuralgia
			17	Psychological pain
			18	Itching, pruritus
			19	Epidemiology of itching, or pruritus
			20	Antipruritics
			21	Itch-producing substances
			22	Generating or exacerbating mechanism of pruritus
			23	Neural mechanism of pruritus
			24	Curettage behavior
			25	Hyperknesis
			26	Psychological itching
			27	Development or aging factors of itching
8005	Medical Physics and Radiological Technology		1	Medical Physics
			2	Radiological Technology and Science
			3	Radiological Technology and Engineering
			4	Radiological Diagnostic Technology
			5	Radiological Therapeutic Technology
			6	Nuclear Medicine Physics
			7	Medical Imaging Physics and Engineering
			8	Medical Imaging Informatics
			9	Radiation Measurement Technology
			10	Particle Radiation Therapeutics
			11	Accelerator Engineering
			12	Radiation Protection Technology

Discipline: Society medicine

Item Number	Research Field			Screening Sub-panel Number / Keyword
8101	Epidemiology and preventive medicine	1	1	Clinical epidemiology
			2	Clinical trial
			3	Environmental epidemiology
			4	Molecular genetic epidemiology
		2	5	Epidemiology
			6	Preventive medicine
			7	Medical examination
			8	Screening
			9	Clinical statistics
			10	Mass-screening
			11	Health management
			12	Health promotion
8102	Hygiene and public health	1	1	Molecular preventive medicine
			2	Molecular epidemiology
			3	Food sanitation
			4	Environmental health
			5	Occupational health
			6	Environmental toxicology
		2	7	Community health
			8	Community medicine
			9	Maternal and child health
			10	Adult health
			11	Elderly health
			12	Global Health
			13	Health administration
			14	Health policy
			15	Care and welfare
8103	Medical and hospital management		1	Hospital management
			2	Medical administration
			3	Medical informatics
			4	Quality of medical care
			5	Medical record management
			6	Risk management
			7	Nosocomial infection management
			8	Critical path
8104	Legal medicine		1	Forensics
			2	Forensic examination
			3	Alcohol research
			4	Forensic odontology
			5	DNA polymorphism
			6	Forensic pathology

Discipline: Clinical internal medicine

Item Number	Research Field			Screening Sub-panel Number / Keyword
8201	General internal medicine (including psychosomatic medicine)		1	Psychosomatic internal medicine
			2	Stress science
			3	Oriental medicine
			4	Alternative medicine
			5	Palliative medicine
			6	General medicine
			7	Primary care
			8	Geriatrics
8202	Gastroenterology	1	1	Upper gastroenterology (esophagus, stomach, duodenum)
		2	2	Lower gastroenterology (small intestine, colon)
		3	3	Hepatology
		4	4	Biliary-Pancreatology
		5	5	Digestive endoscopy
8203	Cardiovascular medicine	1	1	Clinical Cardiology
		2	2	Clinical Angiology
		3	3	Molecular Cardiology
		4	4	Molecular Angiology
8204	Respiratory organ internal medicine	1	1	Clinical respirology
		2	2	Molecular and cellular respirology
8205	Kidney internal medicine	1	1	Nephrology
		2	2	Hypertension
			3	Water and electrolyte metabolism
			4	Hemodialysis

（Discipline: Clinical internal medicine）

Item Number	Research Field	Screening Sub-panel Number		Keyword
8206	Neurology	1	1	Molecular pathophysiology
		2	2	Neuroimmunology
			3	Clinical molecular neurogenetics
		3	4	Clinical neurophysiology
			5	Clinical neuromorphology
			6	Clinical neuropsychology
			7	Functional neuroimaging
8207	Metabolomics	1	1	Disturbances of energy and carbohydrate metabolism
		2	2	Metabolic syndrome
			3	Abnormal lipid metabolism
			4	Disorder of purine metabolism
			5	Abnormal bone and calcium metabolism
			6	Metabolic electrolyte abnormality
8208	Endocrinology		1	Endocrinology
			2	Reproductive endocrinology
8209	Hematology	1	1	Hematology
			2	Thrombosis/Hematostasis
			3	Transfusion medicine
		2	4	Hematology/Oncology
		3	5	Hematopoietic stem cell transplantation
			6	Hematology/Immunology
			7	Immune regulation
8210	Collagenous pathology/ Allergology	1	1	Connective tissue diseases
			2	Rheumatology
		2	3	Allergology
			4	Clinical immunology
			5	Inflammation
8211	Infectious disease medicine		1	Infection diagnosis
			2	Infection therapy
			3	Infection prevention
			4	International infection science
			5	Infection epidemiology
			6	Opportunistic infection
8212	Pediatrics	1	1	Developmental pediatrics
			2	Growth and developmental medicine
			3	Pediatric metabolism/Nutrition
			4	Hereditary/Teratology
			5	Pediatric health
			6	Pediatric social medicine
		2	7	Pediatric neurology
			8	Pediatric endocrinology
		3	9	Pediatric hematology
			10	Pediatric oncology
			11	Pediatric immunology/Allergy/Connective tissue diseases
			12	Pediatric infectious disease
		4	13	Pediatric cardiology
			14	Pediatric respirology
			15	Pediatric nephrology/Urology
			16	Pediatric gastroenterology
8213	Embryonic/ Neonatal medicine		1	Prenatal diagnosis
			2	Fetal medicine
			3	Teratology
			4	Neonatal medicine
			5	Premature baby medicine
8214	Dermatology	1	1	Skin diagnostics
			2	Mechanisms of skin diseases
			3	Cutaneous physiology and biology
			4	Laser/photobiology
		2	5	Dermatologic oncology
			6	Pigment cell biology
			7	Cutaneous immunology and inflammation
			8	Infectious diseases
			9	Regenerative dermatology
			10	Skin genetics

（Discipline: Clinical internal medicine）

Item Number	Research Field	Screening Sub-panel Number		Keyword
8215	Psychiatric science	1	1	Psychopharmacology
			2	Clinical molecular genetics
		2	3	Psychophysiology
			4	Psychopathology
			5	Geriatric psychiatry
		3	6	Social psychiatry
			7	Child and adolescence psychiatry
			8	Forensic psychiatry
			9	Neuropsychology
			10	Liaison psychiatry
			11	Psychiatric rehabilitation
8216	Radiation science	1	1	Medical imaging (including diagnostic radiology)
			2	X-Ray/CT
			3	Ultrasonography
			4	Radiopharmaceuticals/Contrast medium
		2	5	Magnetic resonance imaging
			6	Radiation protection and safety management
			7	Medical imaging technology
		3	8	Nuclear medicine (including PET)
			9	Interventional radiology
			10	Angioplasty/Osteoplasty/Vascular embolization
			11	Radiofrequency ablation（RFA）/Stent treatment/Reserver treatment
			12	Hyperthermia
			13	Ultrasound therapy
			14	Radiation emergency medicine
			15	Medical radiation biology
		4	16	Therapeutic radiology
			17	Radiation oncology
			18	Radiotherapy physics
			19	Radiotherapy biology
			20	Particle beam therapy

Discipline: Clinical surgery

Item Number	Research Field	Screening Sub-panel Number		Keyword
8301	General surgery	1	1	General surgery
			2	Transplant surgery
			3	Artificial organs science
			4	Endoscopic surgery
			5	Robotic surgery
		2	6	Experimental surgery
			7	Endocrine surgery
			8	Breast surgery
			9	Surgical metabolism and nutrition
8302	Digestive surgery	1	1	Esophageal surgery
			2	Gastroduodenal surgery
		2	3	Colorectal surgery
		3	4	Hepatic surgery
			5	Surgery for spleen and portal vein
		4	6	Biliary surgery
			7	Pancreatic surgery
8303	Cardiovascular surgery	1	1	Coronary surgery
			2	Heart valve surgery
			3	Surgery in cardiomyopathy
			4	Congenital cardiovascular surgery
		2	5	Aortic surgery
			6	Peripheral vascular surgery
			7	Phlebosurgery
			8	Lymphology
8304	Respiratory surgery	1	1	Lung surgery
		2	2	Tracheal surgery
			3	Mediastinal surgery
			4	Pleural surgery
			5	Chest wall surgery

（Discipline: Clinical surgery ）

Item Number	Research Field			Screening Sub-panel Number / Keyword
8305	Neurosurgery	1	1	Neurotrauma
			2	Cerebrovascular disorders
			3	Neuro-endovascular surgery
			4	Experimental neurosurgery
		2	5	Neuro-oncology
		3	6	Diagnostic neuroimaging
			7	Functional neurosurgery
			8	Pediatric neurosurgery
			9	Spinal cord/Spinal diseases
			10	Neurosurgical instruments
			11	Stereotactic radiosurgery
8306	Orthopaedic surgery	1	1	Spinal disorders
			2	Muscle/Nerve disorders
			3	Physical therapy and rehabilitation science
		2	4	Bone and soft tissue tumors
			5	Limb reconstruction surgery
			6	Pediatric orthopaedics
			7	Musculoskeletal traumatology
		3	8	Joint disorders
			9	Rheumatic diseases
			10	Bone and cartilage metabolism
			11	Sports medicine
8307	Anesthesiology	1	1	Anesthesiology
			2	Anesthesiology and Resuscitology
		2	3	Perioperative management
		3	4	Pain management
8308	Urology	1	1	Oncology
		2	2	Neurourology and Urodynamics
			3	Infectious diseases
			4	Regenerative medicine
			5	Regenerative medicine
			6	Teratology
		3	7	Adrenal surgery
			8	Kidney transplantation
			9	Andrology
8309	Obstetrics and gynecology	1	1	Obstetrics
			2	Reproductive medicine
		2	3	Gynecology
			4	Gynecologic oncology
			5	Menopause medicine
8310	Otorhinolaryngology	1	1	Otology
			2	Equilibrium Research
			3	Audiology
		2	4	Rhinology
			5	Allergology
			6	Skull Base Surgery
		3	7	Stomato-pharyngology
			8	Laryngology
			9	Broncho-esophagology
			10	Head and Neck Surgery
8311	Ophthalmology	1	1	Clinical research
			2	Epidemiology study
			3	Social medicine
		2	4	Ocular biochemistry and molecular biology
			5	Ocular cell biology
			6	Ophthalmic genetics
			7	Ocular histology
			8	Ocular pathology
		3	9	Ocular pharmacology
			10	Ocular physiology
			11	Ocular developmental and regenerative biology
			12	Ocular immunology
			13	Ocular microbiology/Infectious diseases
			14	Science orthoptic
			15	Optics
			16	Ophthalmic medical engineering

（Discipline: Clinical surgery ）

Item Number	Research Field		Screening Sub-panel Number / Keyword
8312	Pediatric surgery	1	Pediatric digestive surgery
		2	Fetal surgery
		3	Pediatric urology
		4	Pediatric chest surgery
		5	Pediatric oncology
8313	Plastic surgery	1	Reconstructive surgery
		2	Wound healing science
		3	Microsurgery
		4	Tissue culture/Transplantation
		5	Regenerative medicine
8314	Emergency medicine	1	Intensive care medicine
		2	Trauma surgery
		3	Emergency resuscitation science
		4	Acute toxicology
		5	Disaster medicine

Discipline: Dentistry

Item Number	Research Field			Screening Sub-panel Number / Keyword
8401	Morphological basic dentistry		1	Oral anatomy (including histology/embryology)
			2	Oral pathology
			3	Oral bacteriology
8402	Functional basic dentistry		1	Oral physiology
			2	Oral biochemistry
			3	Dental pharmacology
8403	Pathobiological dentistry/ Dental radiology		1	Experimental oncology
			2	Immunity/Infection/Inflammation
			3	General dental radiology
			4	Oral and maxillofacial diagnostic radiology
8404	Conservative dentistry		1	Operative dentistry
			2	Endodontology
8405	Prosthodontics/ Dental materials science and engineering	1	1	General prosthodontics
			2	Removable denture prosthodontics
			3	Fixed partial denture prosthodontics
			4	Oral and maxillofacial prosthetics
		2	5	Stomatognathic function
			6	Dental engineering
			7	Dental materials science
8406	Dental engineering/ Regenerative dentistry		1	Biomaterials science
			2	Regenerative dentistry
			3	Oral implantology
8407	Surgical dentistry	1	1	Oral and maxillofacial surgery
		2	2	Clinical oncology
		3	3	Dental anesthesiology
			4	Laboratory medicine
			5	Oral maxillofacial reconstructive surgery
8408	Orthodontics/ Pediatric dentistry	1	1	Orthodontics
		2	2	Pediatric dentistry
			3	Pediatric oral health science
			4	Stomatognathic function and mechanics
8409	Periodontology		1	Pathogenesis and diagnosis
			2	Periodontics
			3	Periodontal tissue engineering
			4	Preventive periodontology
8410	Social dentistry	1	1	Dental hygiene (including public hygiene/nutrition)
			2	Preventive dentistry
			3	Oral health administration and management
		2	4	Forensic odontology
			5	Gerodontics
			6	Psychosomatic medicine dentistry
			7	Dental education

Discipline: Nursing

Item Number	Research Field	Screening Sub-panel Number / Keyword		
8501	Fundamental nursing	1	1	Nursing philosophy
			2	Nursing ethics
			3	Nursing art
			4	History of nursing
		2	5	Nursing education
		3	6	Nursing management
			7	Nursing policy/Administration
			8	Disaster nursing
8502	Clinical nursing	1	1	Critical care/Emergency nursing
			2	Perioperative nursing
			3	Adult nursing (chronic)
		2	4	Rehabilitation nursing
			5	Tarminal care
			6	Oncology nursing
8503	Lifelong developmental nursing	1	1	Family health nursing
			2	Maternal/Women's health nursing
		2	3	Midwifery
			4	Child health nursing
8504	Gerontological nursing	1	1	Gerontological nursing
			2	Rehabilitation nursing
		2	3	Psychiatric/Mental health nursing
			4	Home care nursing
			5	Visiting nursing
			6	Family health nursing
8505	Community health nursing	1	1	Community health nursing
			2	Occupational and environmental health nursing
		2	3	Public health nursing
			4	School nursing

Attached Table 4　Generative Research Fields

This table applies only to the screening division “Generative Research Fields” within the categories “Scientific Research (B)” and “Scientific Research (C).”

The period for which proposals are solicited for these areas is fixed as three years, beginning with the first fiscal year when the area is established. In the first fiscal year of solicitation, the research period for which application proposals can be made is from three to five years, in the second fiscal year from three to four years, and in the third fiscal year three years.

○Fields Designated for FY2017 Recruitment

Area	Detail	Area Number	Proposal Solicitation
Conflict Studies	Conflicts can be seen as practically universal in human society. They occur at many different levels, from discord within families or tensions between individuals to confrontations or disputes within or between organizations and communities, or even wars between nations. In recent years it has been pointed out in many contexts that the form and nature of conflicts are undergoing transformation. International conflicts, for example, used to mean violent clashes between states, whereas today they are more likely to involve non-state players on one side of the conflict, or cyber-terror attacks that inflict serious damage without direct violence. Domestically, class and ideology based conflicts, such as labor-management disputes, have become less frequent, while generational and gender conflicts are more common; and problems in school and at home, such as bullying and exclusion, have grown all too frequent. Meanwhile, in some developed countries that accepted a large influx of immigrants and refugees in the latter half of the 20th century, tensions have come to the fore between those advocating multiculturalism and those reacting against it. The advance of technology has also significantly changed the nature of modern conflicts. The popularity of social networking services (SNS), for example, facilitates personal attacks on specific individuals and hate speech, raising major questions about the ethics of personally hurtful actions. Among state-of-the-art military technologies, there are some that question to the core the justice and injustice of violence and war. Another characteristic of modern conflicts is the difficulty of creating institutions and norms for resolving them, even though they have brought about many kinds of human rights infringements. In the international arena, the shifting power balance has made it impossible to ignore the rise of new claims that do not necessarily resonate with existing international norms of Western European origin. The spread of information resulting from globalization and from the advancement of information technology facilitates a sense of involvement in other people’s conflicts and disputes, complicating attempts to resolve them. The field of Conflict Studies is a generative research field that looks at the changing nature of conflict and disputes, as well as their impact on nations, communities, and our social awareness and life style. The field includes empirical studies as to how the characteristics of conflicts and disputes relate to the spread of specific issues, the advancement of technologies, or changes in economic systems. From innovative and interdisciplinary perspectives, it analyzes the effects that conflicts and disputes impose, such as environmental destruction or physical and mental harm, while pursuing normative questions aimed at coming up with notions of justice and tolerance that can respond to the diversifying forms and nature of conflicts and disputes and lead to a peaceful world where conflict can be avoided, and seeking new legal frameworks for resolving problems and establishing mechanisms for coordination and reconciliation.	N004	FY2015 — FY2017

Area	Detail	Area Number	Proposal Solicitation
Transition State Control	Transition states of chemical reactions in which bonds are broken and formed correspond to saddle points on the potential energy surface of a system. These states determine the rate of the chemical reactions and the selectivity of the products formed. Methods for analyzing these transition states, however, have been limited to assessment of indirect information such as measurements of reaction rate or identification of reaction intermediates, theoretical chemistry evaluation of transition states, or ultrafast spectroscopic measurement of transition states in limited systems. In this context, new approaches are being taken recently from a materials science standpoint, in the search for methods of controlling chemical reactions and material transformation methods. It is now becoming possible to study the transition processes of material transformation from a variety of perspectives both experimentally and theoretically, with transition states of chemical reactions being central to the research. Against the backdrop of these academic trends, the control of transition states of chemical reactions has been set as a generative research field. Studies of the mechanisms of chemical reactions have largely focused on relatively simple organic and inorganic reactions, and on the rate and product selectivity of enzymatic reactions, being carried out mainly in the disciplines of chemistry and biology. The creation of materials from chemical reactions, however, is an important theme in many fields, including engineering, pharmaceutical sciences, and agriculture as it is deeply involved in issues related to energy, food, medicine, and environment. To develop chemical reactions with high utility value, attention must be paid to the control and design of transition states in a variety of basic chemical reactions and macromolecular chemical reactions, and their extension to multi-step and multicomponent chemical reactions and to biorelated chemical reactions. In this way, the kinetic aspects of chemical reactions can be clarified, leading to the development of new methodologies for highly efficient and highly selective reactions under less restrictive conditions. Transition State Control is a new generative research field encompassing not only chemical and biological approaches for synthetic and catalytic chemistry, but also integrated approaches from a variety of research fields including theoretical and analytical science, aimed at clarifying transition states.	N005	FY2015 — FY2017
Constructive Systems Biology	Current biology research relies mainly on an element reduction approach for identifying the components of living organisms at the molecular level and clarifying the functions generated through their inter-molecular interaction. In the process, researchers have accumulated a considerable amount of genome information and knowledge on the molecules that make up cells, and their functions. Systems biology has developed as an approach as well, treating living organisms as systems and seeking to determine the dynamics and control networks resulting from interaction among their components. Also proposed is integrative biology, which seeks a deeper understanding of living organisms by integrating and reconstituting their various elements. In addressing the question, “What is life?”, however, research has not yet advanced adequately regarding the mechanisms by which spontaneous formation of order takes place, or the process by which forms and functions are created through self-organization. Constructive Systems Biology is a generative research field characterized by the effort to elucidate the mechanisms and principles underlying the generation of cells, organs, and multicellular organisms. Attempting to go beyond the limitations of an element reduction approach in clarifying these mechanisms, this new field takes up verifiable hypotheses based on free concepts not tied to any existing discipline, and seeks to develop methods for verifying these hypotheses. It takes a structural approach to understanding the natural laws by which living organisms are constructed as systems, starting from the elementary processes in formation of cells and individuals, and the interactions among these cells and individuals. Constructive Systems Biology is not simply concerned with creating functions that mimic living organisms. The emphasis is rather on research that elucidates the generative principles and mechanisms of living organisms and their components, and that seeks to discover new properties of living organisms. Research that aims to identify the structural elements of living things, or attempts to create functions that resemble those of living things, is outside the scope of this field.	N006	

Area	Detail	Area Number	Proposal Solicitation
Global Studies	As full-scale globalization started to take place at the turn of the 20th and 21st centuries, it gave rise to many issues that can be solved only by analyzing them globally, that is, as global issues. Among them are global warming and various environmental issues, infectious diseases, food shortages and overpopulation, competition for resources, humanitarian intervention, clash of civilizations, friction over the emergence and acceptance of immigrants and refugees, handling of property rights on the internet and the explosion of information, and the widening gap between rich and poor both domestically and globally. Characteristic of most global issues is the difficulty of logically linking their cause and effect, since those who benefit and those who suffer the burdens often do not correspond in time or space. That is, as issues with causes and effects spanning the globe, their existence is hard to recognize. Existing approaches to these issues, which tend to start their analysis from local units or national frameworks, are not adequate, since partial optimization does not necessarily lead to optimization of the whole. Instead, new global approaches are needed. In proposing such an approach, attention must be paid to a number of points. For example, what spatial scale should be adopted? What roles are played by the borders (gaps) created by legal systems, culture, language, life style and other institutions at the social, economic, political, cultural, and life style dimension? And what are effective means for encouraging communication that can cross these borders or bridge these gaps? It must further be kept in mind that globalization is not a priori justified or inevitable. The field of Global Studies thus includes the dimension of recognition and interpretation, dealing with a variety of questions such as the good and bad brought about by globalization, how to assess its legitimacy, and whether alternative forms of globalization are conceivable. This generative research field is not limited to studying the phenomenon of globalization, but covers the globalizing process and methods of solving global issues. Among the topics are logical predictions regarding the future of issues that can only be resolved through global research, and the search for global approaches; empirical and normative assessment of globalization; and also a reexamination of universality and the basis of spatial awareness as advocated by various existing academic disciplines.	N007	FY2016 — FY2018
Intensification of Artifact Systems	Examples of manmade (artifact) systems being properly designed initially but proving inadequate with the passage of time or spatial expansion, due to external (environmental) or internal causes, are too numerous to list. This phenomenon can be seen as arising because a solution partially optimized on a certain temporal or spatial level did not coincide with the required overall optimization solution. In some cases, the passage of time or spatial expansion leaves no choice but to rebuild the entire system anew. When this is not readily feasible, however, the existing system must be “intensified.” Here “intensification” means modifying a system to make it better suited to the newly defined system objectives. Concepts proposed up to now for intensification of artifact systems include robustness (ability to withstand turbulence), flexibility (ability to mitigate and overcome impacts), resiliency (ability to fulfill the purpose even with major state changes), and plasticity (ability to transform and adapt to the changing environment). These are now being taken up in various research fields. The academic field for addressing these areas comprehensively, however, is still in its infancy. A major feature of modern artifact systems is the unpredictability of the overall system behavior, as the huge scale and complexity make it difficult to grasp all the interactions among elements. Intensification of a system requires consideration both of the time scale on which the system renovation will occur and of the spatial scale for going from individual elements to the whole. In this situation, we need to utilize partial optimization solutions as the starting points to rationally derive the required overall optimization solution. The problem of sustainability we currently face came about because the partial optimization solutions initially proposed to fit contemporary society could not become overall solutions to satisfy the scope of the requirements posed by the expansion of time and space. We are said to be at the point where leaving things as they are could lead to breakdown. Today’s world is supported by an enormous number of artifacts and their systems. This generative research field, Intensification of Artifact Systems, addresses sustainability comprehensively from the viewpoint of artifact systems. It is therefore a field that not only studies the intensification of artifact systems, including hardware and software, but also covers research on the human factors of artifact system design, operation, and administration.	N008	

Area	Detail	Area Number	Proposal Solicitation
Complex Systems Disease Theory	Advances in evidence-based medicine and translational medicine are on the way to establishing modern medical systems in which knowledge from many years of experience and experimental research are combined with accumulated technologies to achieve an integrated, systematic “bench-to-bedside” approach. At the same time, reductive searches are taking place for disease-related factors that may serve as potential therapeutic targets, and research is being carried out into preventive measures and therapies that target these factors. Analysis of the millions of single nucleotide polymorphisms (SNPs) in the human genome and other related studies have led to a dramatic advance in the ability to identify genomic regions associated with diseases. This information, however, merely indicates a statistical relationship and does not necessarily explain the onset and pathological progression of diseases. The findings are therefore limited in their ability to predict how diseases manifest themselves and progress. Meanwhile, noninvasive examination of blood, urine, saliva, and other biological samples is becoming standard, while imaging technology has made a range of previously unobtainable data available for ongoing analysis in real time. The concept of complex systems is a mathematical science notion. When this is applied to prediction of disease onset, we find that diseases are caused by numerous factors and cannot be predicted simply by assembling the natures of each factor. Given “the repeated spontaneous creation and maintenance of order” realized by each individual, however, it might be possible to predict diseases by analyzing the processes leading to the onset of disease in large numbers of individuals and matching the results to specific individuals. This field, in other words, seeks to take advantage of our ability today to obtain information ranging from metabolism and signal transmission to networks of gene expression, in real time as to how human beings as complex systems maintain dynamic homeostasis at each level of the physiological hierarchy, including living organisms, tissues, and cells. It is possible that from these markers we can detect disturbance or destruction of the dynamic homeostatic state, as predictors for the onset of disease and as indicators of disease progression. It is clear that diseases are influenced by complex factors ranging from age and gender to the living environment. The correlation between fluctuations in a range of biological and environmental factors and the onset or progression of disease in an individual is under investigation. By applying the results of these analyses to many patients whose conditions are similar and thereby identifying certain signs, more general predictions concerning the onset or progression of disease may become possible. This generative research field views the onset and progression of diseases as a complex systems, and conducts research for the development of methods of predicting the onset and progression of diseases, verification of prediction factors by evidence-based investigation of the causal relationship between these factors and patients’ actual conditions.	N009	FY2016 — FY2018
Orality and Society	Orality is a concept typically contrasted with literacy. Whereas literacy refers to the culture of letters and the world of written language, orality means the culture of the voice and the world of spoken language. This research field is, however, not limited narrowly to the the spoken language, but looks for a more extended concept of orality, that is, social relations characterized by co-presence. Face-to-face relationships such as parenting, nursing and clinical care, and casual or intimate conversations are examples of co-presence. Even though oral communication is the core, an important role is played by physical interactions that cannot be reduced to conversation alone. Orality further encompasses the ability to understand the other person’s feelings from voice, facial expression, gestures, and narrative, to suggest that he or she is looked after, and to sustain co-presence. Accordingly, orality goes beyond conversation and other vocal communication and oral culture, but with the implication of co-presence and empathic abilities, to include gestures, physical expressions, sign language, emotions and affect, care, narrative therapy, life story, oral history, performance art, collective memory, and other such elements. Nor is it limited to human beings, as it includes also the vocal and physical communications of animals and the relationships between human beings and animals. Today, with the advance of media technologies such as SNS and mobile phones, the nature of co-presence having orality as its core is undergoing major changes. Our social activities have expanded greatly in scope and become more convenient. Attention is further being directed to progress in modern technologies for assisting with research on orality as co-presence (voice and image sensing and analysis technologies, SNS recording, content analysis, mining, etc.) and technologies applying such research results (nursing care robots, machine translation, multimodal conversation, etc.). There are at the same time arguments that the spread of SNS makes co-presence less important, thus eroding the ability to understand other people, and causing various social and mental problems. This generative research field includes humanities and social science research on the nature of co-presence and empathy centered on orality, takes into account the contemporary situation as described above, and conducts research on new media and communication technologies and technologies for analyzing face-to-face social relations and SNS-based big data. It is a new field taking a diverse approach to orality with the implication of co-presence and empathic abilities.	N010	FY2017 — FY2019

Area	Detail	Area Number	Proposal Solicitation
Agricultural Resources for the Next Generation	Primary industry used to refer to economic activities based on sustainable use of abundant local natural and agricultural resources. More recently, however, due to market mechanisms that promote myopic pursuit of productivity and profitability, the concentration of resources in specific sectors and uniformity of resource-using industries have economically impoverished primary industries as a whole and substantially diminished the sustainability of local communities. For example, while humans in the past cultivated thousands of plant varieties for food, the pursuit of economic rationality for increasing food production and overcoming starvation have led to a decline in the number of varieties of farm products and a loss of biodiversity. Similar trends can be seen in all kinds of agricultural resources in the forestry, fishery, and livestock industries. The loss of biodiversity and the trend toward uniform use of agricultural resources (the trend to monoculture) have resulted in deterioration of the soil, reduction of productivity in agricultural lands, and an increase in the risk of disaster. Moreover, increasing urban populations and policies favoring convenience, combined with the loss of diversity in agricultural resource utilization, have led to the decline of self-sustained and diverse local communities. To create a sustainable society, in addition to a reconsideration of economic policies, research will need to be conducted from a long-term perspective, based on science, on the prospects for new uses of agricultural resources for the next generation. Aiming to create a sustainable society, this generative research field seeks to develop a field that comprehensively promotes research addressing a range of topics including (a) restoring diversity of agricultural resource use; (b) how restoration of biodiversity will affect long-term reduction in negative environmental impacts, including reducing the risk of disaster; (c) enhancing the functionality of agricultural resources and promoting technical innovations in the agriculture, forestry, fishery, livestock, fermentation and other industries (to be addressed through basic research); and (d) social and institutional systems that leverage these research findings and employ collaboration with community-specific industries in creating sustainable local communities. Possible examples of such studies are development and research on new agricultural resources that are marketable and will help promote the establishment of a sound material-cycle society, along with their functions; research on policies for utilizing research seeds based on agricultural science for sustainable local communities; research on social systems for taking advantage of the functionality of community-specific agricultural resources; and research on a technological infrastructure supporting diverse and region-specific local community formation. Another possibility is research seeking to discover a model for next-generation primary industry by tracing back in history and looking at the world from the perspective of how diverse agricultural resources have been maintained in various regions in harmony with nature hitherto. This new research field comprises a broad academic discipline encompassing, in addition to agricultural science, natural sciences such as ecology and environmental science, and social sciences such as economics and policy science.	N011	FY2017 — FY2019

Area	Detail	Area Number	Proposal Solicitation
The Information Society and Trust	With the rapid evolution of the information and communication fields, huge amounts of sensing information are being generated on networks of computers, sensors and other devices and are being stored as Big Data in cyber space, typically in cloud storage. As this information is flexibly utilized for combining people and things in real space, new services are being created that contribute to people's daily life, socio-economic activity, education and research activity, and administrative activity, moving us toward a new information society in which large numbers of people use these services as social infrastructure. To ensure sound advancement of the information society, it will be important to ensure trust without hindering the ubiquity of information and communication. Since long ago, connections between people have grown into organizations, markets, and society, and trust has been built on the foundation of personal relationships. That alone, however, is not sufficient for building trust in a society extending over networks of unseen faces, where various social problems have arisen concerning security and privacy. It is not easy to achieve trust in the information society, where multi-stakeholders exist. In many cases the preconditions for trust are not clearly defined among the people, organizations, services, systems and other constituent elements, namely, who (or what) is to trust what to what extent. Seen from individual elements or in the aggregate, often it is not clear how trust is realized. Objective measures and methods for evaluation of trust, as well as methods for properly designing and realizing trust based on a variety of constraints, have not been established, nor have methods for strengthening society's efforts to ensure trustworthiness of the target services and systems. In many different fields of society, including manufacturing, farming, commerce, finance, logistics, transportation, tourism, social services, healthcare, education, disaster prevention, energy conservation, and environmental improvement, the ability to combine and make use of various information obtained from people and things enables more advanced services to be provided, but at the same time it compounds the difficulty of preserving confidentiality and protecting privacy. What is the proper way to design the scope of disclosure and level of detail, based on trust, for various information including personal information, trade secrets, and intellectual property? What kind of legal institutions and norms are needed? What should be considered from the standpoint of ethics and morals? How can compatibility be achieved with technologies, systems, services, and business models? These are among the many questions to be addressed. This generative research field takes a multifaceted approach to the study of trust in contemporary society.	N012	FY2017 — FY2019

Attached Table 5　The area of research for the screening of Challenging Research (tentative for the FY 2017 application)

This Table is only applicable to applications and screening of the FY 2017 Challenging Research (Pioneering/Exploratory)

1：Philosophy, Art, and related fields
2： Literature, Linguistics, and related fields
3：History, Archaeology, Museology, and related fields
4：Geography, Cultural anthropology, Folklore, and related fields
5：Law and related fields
6：Political Science and related fields
7：Economics, Business Administration, and related fields
8：Sociology and related fields
9： Education and related fields
10：Psychology and related fields
11：Algebra, Geometry, and related fields
12：Analysis, Applied mathematics, and related fields
13：Condensed matter physics and related fields
14：Plasma science and related fields
15：Particle-, Nuclear-, Astro-physics, and related fields
16：Astronomy and related fields
17：Earth and planetary science and related fields
18：Mechanics of materials, Production engineering, Design engineering, and related fields
19：Fluid engineering, Thermal engineering, and related fields
20：Mechanical dynamics, Robotics, and related fields
21：Electrical and electronic engineering and related fields
22：Civil engineering and related fields
23：Architecture, Building engineering, and related fields
24：Aerospace engineering, Naval and maritime engineering, and related fields
25：Social systems engineering, Safety engineering, Disaster prevention engineering, and related fields
26：Materials engineering and related fields
27：Chemical engineering and related fields
28：Nano/Micro science and related fields
29：Applied condensed matter physics and related fields
30：Applied physics and engineering and related fields
31：Nuclear engineering, Earth resources engineering, Energy engineering, and related fields
32：Physical chemistry, Functional solid state chemistry, and related fields
33：Organic chemistry and related fields
34：Inorganic/Coordination chemistry, Analytical chemistry, and related fields

35：Polymer, Organic materials, and related fields
36：Inorganic materials chemistry, Energy-related chemistry, and related fields
37：Biomolecular chemistry and related fields
38：Agricultural chemistry and related fields
39：Agricultural and Environmental Biology and related fields
40：Forestry and Forest Products Science, Applied aquatic science, and related fields
41：Agricultural economics and rural sociology, Agricultural Engineering, and related fields
42：Veterinary medical science, Animal science, and related fields
43：Molecular and Genome biology and related fields
44：Biology of Cells to Organisms, and related fields
45：Ecology and Evolution (including anthropology), and related fields
46：Neuroscience and related fields
47：Pharmaceutical Sciences and related fields
48：Biomedical structure and function and related fields
49：Pathology, Infection/Immunology, and related fields
50：Tumor biology and related fields
51：Brain sciences and related fields
52：General internal medicine and related fields
53：Organ-based internal medicine and related fields
54：Internal medicine of the bio-information integration and related fields
55：Surgery of the organs maintaining homeostasis and related fields
56：Surgery related to the biological and sensory functions and related fields
57：Oral Science and related fields
58：Society medicine, Nursing, and related fields
59：Health science and related fields
60：Information science, computer engineering, and related fields
61：Human informatics and related fields
62：Applied informatics and related fields
63：Environmental analyses and evaluation and related fields
64：Environmental conservation measure and related fields
65：Biomedical engineering and related fields

※The area of research for the screening of Challenging Research (tentative for the FY 2017 application) are tentative screening categories for this FY only. For the screening of FY 2018 (call for applications planned in September 2017) will be conducted in the medium category after an official decision. Furthermore, a new screening category table (including medium category) is currently being considered based on the "suggestions regarding“Grants-in-Aid for Scientific Research (KAKENHI) Screening System Revision 2018”". For the current proposal for the new screening areas please consult the MEXT website at http://www.mext.go.jp/a_menu/shinkou/hojyo/1370049.htm

4. Concerning participation in a Research Ethics Education Course etc.

Principal Investigators and Co-Investigators taking part in research funded by KAKENHI, have to do the following concerning the Ethics Education in Research Training Session, before application of a new research project to the FY2017 Grants-in-Aid for Scientific Research.

Furthermore, if you have taken part in a Research Ethics Education Course etc. in the past, or have changed research institutes after taking part in a Research Ethics Education Course etc. please make sure to check your research institute's Research Ethics Education Course etc. carefully.

【Obligations of the Principal Investigator】

・Read and complete the teaching materials concerning the Ethics Education and Research Training Session (For the Sound Development of Science-The Attitude of a Conscientious Scientist- "For the Sound Development of Science" Editorial Committee, E-Learning Course on Research Ethics ［eL CoRE］, CITI Japan e-learning program, etc.) or participating in the Ethics Education in Research Training Session based on the "Guidelines for Responding to Misconduct in Research(Adopted August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology（MEXT）).

・Concerning the Co-Investigator

①Receive a "Grants-in-Aid for Scientific Research Written Consent of the Co-Investigator (kenkyū-buntansha), " that states that they will "Participate in an Ethics Education in Research Training Session before the application of the current research project"

②Confirm that the Co-Investigator has participated in an Ethics Education in Research Training Session before the application.

【Obligations of the Co-Investigator】

・Submit a "Grants-in-Aid for Scientific Research Written Consent of the Co-Investigator (kenkyū-buntansha) " that states that they will "Participate in an Ethics Education in Research Training Session before the application of the current research project" to the Principal Investigator

・Read and complete the teaching materials concerning Ethics Education and Research Training Session (For the Sound Development of Science-The Attitude of a Conscientious Scientist - "For the Sound Development of Science" Editorial Committee, E-Learning Course on Research Ethics ［eL CoRE］, CITI Japan e-learning program, etc.) or participating in the Ethics Education in Research Training Session based on the "Guidelines for Responding to Misconduct in Research(Adopted August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology（MEXT）).

・After participating in an Ethics Education and Research Training Session, report the participation in an Ethics Education and Research Training Session to the Principal Investigator before the application.

※Participation in an Ethics Education and Research Training Session of the Principal Investigator and Co-Investigator will be confirmed through the JSPS Electronic Application System.

Ⅳ. Instructions & Procedures for those Who Have Already Been Accepted

1. On the handling of research projects that are scheduled to be continued in FY2017 (hereinafter called "continued research projects").

It is not necessary to submit application forms for continued research projects. However, in order to receive KAKENHI, it is necessary to prepare and to submit the necessary documents, like the grant application form, after receiving a notification of the informal decision to grant the funding.

Moreover, as a general rule, it is not possible to decline a continued research project and to apply for a new research project. However, the applicant should verify that, depending of the research category, the handling of research projects will be as mentioned below.

(1) Specially Promoted Research

1) If the applicant would like to make significant changes in the research project.

If the applicant would like to make significant changes in the research project, he/she needs to submit the application forms. Because the application procedure is the same as for "Preparing the Application (Proposal for Grant-in-Aid) and Submitting the Application (Proposal for Grant-in-Aid)" (see page 42), the applicant should verify it. Furthermore, when preparing the Proposal for Grant-in-Aid, he or she should select the same area as when he or she was accepted for the Desired Area for Screening.

Moreover, since, in this case, the application needs to be screened again, it may happen that the change will not be recognized and that the amount of the budget to be granted will not be granted from FY2017 on.

To be specific, a significant change to the research project includes (1) a change to the purpose of the research or a change to the title of the proposed project, (2) a change to the annual plan of the budget that is scheduled to be funded from FY2017 (except a change to the annual plan of the budget making use of the Adjustment Funds), (3) an increase or a reduction of the budget, and a shortening of the research period, etc. Please consult in advance with the Scientific Research Aid Division II of the Department of Research Projects, in order to know whether the change the applicant wants to make falls under these categories (see "Inquiries").

(2) Research categories except Specially Promoted Research

1) If the applicant would like to make significant changes in the research project.

Concerning research fields excluding "Generative Research Field" for Scientific Research (B) and Scientific Research (C),if the applicant would like to make significant changes in the

research project, he/she needs to submit the application forms (Proposal for Grant-in-Aid). For specifics concerning the application procedure, the applicant should verify "Preparing the Application (Proposal for Grant-in-Aid) and Submitting the Application (Proposal for Grant-in-Aid)" (cf. p.42). Moreover, as a general rule, applications for an increase of the budget for continued research projects are not accepted.

In addition, **with regard to KAKENHI (its Multi-year Fund portion), the fund-based-grant type of KAKENHI (its Partial Multi-year Fund portion) and KAKENHI (its portion based on the Series of Single-year Grants) using the Adjustment Funds, applicants are allowed to make changes to the annual plan of the research budget, depending on the needs of the research. Therefore, even if changes are made to the annual plan of the research budget, they do not constitute significant changes in the research project scheduled to be granted in FY2017 and thereafter.**

Since, if the applicant would like to make significant changes in the research project, the application needs to be screened again, it may transpire that the change will not be recognized and that the amount of the budget scheduled to be granted will not be granted from FY2017 on. Therefore, the applicant should consult in advance with the Research Aid Division I of the Department of Research Programs, in order to know whether the change the applicant wants to make falls under these categories (see "Inquiries").

2) If the research proceeded beyond expectation, and the original attainment targets of the continued research project have already been reached

In case the applicant changes the research category and aims for a new research development (※), because the research proceeded beyond expectation, and because the original attainment targets of the continued research project have already been reached, he or she can apply for a new research project, after submitting a Notice of Completion of Research Project and a Statement of Reason (cf. Supplementary Volume Application Forms and Data Entry)by October 21 (Friday), 2016. (Documents that arrive later will not be accepted.)

Moreover, please note that, if the content of the Statement of Reason is deemed inappropriate by the screening panel for applications for new research projects, the research project for which a new application is made becomes ineligible for screening, and that, in this case, no funding of KAKENHI from FY2017 on can be requested for the continued research project that has already been completed.

※ "Cases where the applicant changes the research category and aims for a new research development" are cases where the applicant makes a change such as, for example, from "Scientific Research (C) (General)" to "Scientific Research (B) (General)". However, it also includes cases where the applicant only makes a change to the screening division, such as, for example, a change from "Scientific Research (A) (General)" to "Scientific Research (A) (Overseas Academic Research)".

2. On the Handling of Continued Research Projects in Which the Principal Investigator Has Failed to Submit the Report on the Research Achievements

In the same way as for new research projects, no KAKENHI will be funded to researchers who do not submit the report on the research achievements at the end of the research period, without any reason. Moreover, it may happen that the decision to grant the funding to the researcher in question is cancelled, that an order to return the grant is issued, **or that the name etc. of the research institute said researcher belongs to is disclosed to the public**.

Furthermore, if researchers have failed, without good reason, to submit the scheduled report on the research achievements, then implementation of other KAKENHI due to be implemented in the same fiscal year will be suspended.

3. Concerning participation in a Research Ethics Education Course etc.

Please check carefully with the research institute you belong to concerning the participation in a Research Ethics Education Course etc.

However, in the case that a new Co-Investigator is added in FY2017 Grants-in-Aid for Scientific Research, the Principal Investigator has to receive a "Grants-in-Aid for Scientific Research Written Consent of the Co-Investigator (kenkyū-buntansha)" from the Co-Investigator.

In that case, the Co-Investigator has to read and complete the teaching materials concerning the Research Ethics Education Course(For the Sound Development of Science - The Attitude of a Conscientious Scientist - "For the Sound Development of Science" Editorial Committee, E-Learning Course on Research Ethics［eL CoRE］, CITI Japan e-learning program, etc.) or participating in the Research Ethics Education Course based on the "Guidelines for Responding to Misconduct in Research（Adopted August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology （MEXT）） before the application (in case the funding has already been granted, before the Principal Investigator applies for approval of change for the Co-Investigator with JSPS).

Ⅴ. Instructions & Procedures for Staff of the Research Institution

1. Issues to Be Completed Beforehand by the "Research Institution"

(1) Requirements as a "Research Institution" and Procedures for Designation and Change

In order to apply for KAKENHI, a researcher needs to belong to a "Research Institution"

Concerning the "Research Institution" cited here, the following four types of "Research Institution" have been designated as eligible in Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research (announced by the Ministry of Education, Culture, Sports, Science and Technology).

1) Universities and inter-university research institutions
2) MEXT facilities and other institutions engaged in scientific research
3) Technical colleges
4) Institutions designated by the Minister of MEXT (See Note)

(Note)
In order to become research institution, institutions not falling under 1) to 3) first need to receive the designation by the Minister of Education, Culture, Sports, Science and Technology (MEXT). Therefore, institutions should consult with the Scientific Research Aid Division of the Research Promotion Bureau of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Moreover, if changes in one of the following items have been scheduled, institutions that have received the designation by the Minister of Education, Culture, Sports, Science and Technology (MEXT) and already have been recognized as research institution should promptly report the content of these changes to the Scientific Research Aid Division of the Research Promotion Bureau of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

A) abolition or dissolution of the research institution,
B) name and address of the research institution, and name of the representative,
C) matters concerning laws, regulations, endowment acts and other rules that prescribe the purpose of establishment, the business content, and the internal organization of the research institution.

Moreover, **researchers who belong to such institutions should consider that**, in order to conduct research activities using KAKENHI, **the research institution should meet the requirements mentioned below**.

(Requirements)

A) if a KAKENHI is given, the research activity should be conducted as an activity of the research institution in question,
B) if a KAKENHI is given, the research institution should carry out the management of KAKENHI.

(2) Verification of the Eligibility to Apply of the Affiliated Researcher

Researchers who try to apply for KAKENHI, should meet the requirements ① and ② below. Therefore, they should sufficiently verify these requirements with the research institution.

If JSPS Research Fellows (SPD, PD, or RPD) meet the following application requirements at

their research institutions which they register as their host research institution, they can also apply for a part of the research categories other than “Grant-in-Aid for JSPS Fellows (JSPS Research Fellow)”. (Cf. “Table of Restrictions on Duplication”.) In this case, the research institution should operate in a way that it recognizes applications where the research period exceeds the period of JSPS support.

Moreover, research institutions should bear in mind that JSPS Research Fellows (DC) and Overseas JSPS Fellows, graduate students or other students cannot apply, even if they hold a position in which they conduct research activities in the research institution to which they belong or in another research institution.

Researchers who try to apply for KAKENHI, should meet the Eligibility to Apply.（see page 25）

① **At the time of the application, a person needs to be recognized by the research institution to which he or she belongs to be a researcher who meets the requirements A), B) and C) below, and needs to be a researcher whose Researcher Information has been registered in e-Rad as “Eligible to Apply for KAKENHI”.**

(Requirements)

1) **The researcher should belong to the research institution as a person who has *inter alia* the duty to perform research activities within the research institution in question** (irrespective of whether the work is paid or unpaid, full-time of part-time. Moreover, it is not necessary for the researcher to perform these research activities as his or her main duty.)
2) **The researcher should actually be engaged in research activities at the research institution in question** (this does not apply to cases where he or she is only engaged as a research assistant.)
3) **The researcher is not a graduate student or any other category of student.** (However, this does not apply to persons who hold a position consisting of conducting research activities in the research institution to which they belong, as their main work (e.g. university teaching staff, researchers from companies, etc.), and those who also have a student status.)

② **A person should not fall under “Not eligible for receipt of funding” in FY2017, because he or she committed fraudulent use, fraudulent receiving of grants or fraudulent acts of/with KAKENHI or other competitive funding.**

Research grant employees, as a rule, need to concentrate on their employment related work according to their employment contract. Therefore, considering the working hours they need to allot to their employment related work, they cannot apply for KAKENHI themselves.

However, if they provide a clear explanation on the time they can spend besides their employment related work, and if during this time they themselves attempt to conduct research using KAKENHI on their own initiative, it is possible for them to apply for KAKENHI, on condition that the following points have been verified in the research institution. In this case, they can apply as a Principal Investigator, and they can also become Co-Investigators

(*kenkyū-buntansha*), Co-Investigators (*renkei-kenkyūsha*), or other project members.

- It has been determined in the employment contract that research grant employees themselves can conduct research on their own initiative, besides their employment related work.
- The employment related work and the work devoted to research that they conduct themselves on their own initiative has clearly been divided in the working hours and the effort.
- Time that can be allotted to research which they attempt to conduct themselves on their own initiative has been secured, besides the time spent for employment related work.

(3) Registration of the Researcher Information in e-Rad

Individuals other than the Principal Investigator who try to apply, being the Co-Investigator(s) (*kenkyū-buntansha*) and the Co-Investigator(s) (*renkei-kenkyūsha*) who make up the Project Members should be individuals of whom the researcher information has been registered in e-Rad as "Eligible to Apply for KAKENHI".

Regarding the registration (renewal) of the researcher information necessary when applying, the person in charge in the research institution to which the researcher belongs should perform the procedures using e-Rad.（if there is any item, such as the institution, the position, or others, that needs to be corrected, even though he or she has already been included in the researcher list of the research institution, the applicant needs to register the correct information on the researcher list.）

For specifics on the method of registration, the research institution should verify the "Manual for Research Institutions to which the Researchers belong (for Research Institution Office Representatives and for Research Institution Office Workers)".

Moreover, concerning the registration of the researcher information in e-Rad, there is no registration period (deadline). Therefore, registration is possible at any time.

However, since Proposals for Grant-in-Aid will not be accepted after the deadline for submission of application documents, applicants should complete the registration (the renewal) of the researcher information early, in order to have sufficient time to submit (send) them.

In order not to negatively affect the compilation of the applications within the research institution, when completing the applications, the research institution should perform the various procedures (including the procedures within the research institution), positioning this specific procedure as one of the important procedures to be performed by the research institution.

(Reference) On "Grant-in-Aid for Research Activity Start-up"

The "Grant-in-Aid for Research Activity Start-up" is aimed at supporting persons who cannot apply for the call for proposals this time, such as researchers who have just been employed by their research institutions, researchers who return from childcare leave or other kinds of leave, or other researchers.
The FY2017 call for proposals for this research category is scheduled to be issued in March 2017. Eligibility to apply is as follows:

① Researchers who did not apply for this grant category because they became eligible to apply for a Grant-in-Aid after the 7 November 2016 deadline for applications under the below-listed (*) categories, openly solicited by MEXT and JSPS from September 2016.

② Researchers who were unable to apply for the below-listed (*) grant categories openly solicited by MEXT and JSPS in September 2016 because they were on leave for child birth and/or infant raising in FY 2016.

(Applicants should verify the details in the Application Procedures scheduled to be released in March 2017.)

(Applicants should verify the details in the Application Procedures scheduled to be released in March 2017.)
The research institution is responsible for conducting the registration of the researcher information and other matters in e-Rad. Therefore, applicants should bear this in mind when registering researcher information that may come to fall under the above-mentioned point ① or when carrying out other procedures.

(*) Among the Grants-in-Aid for Scientific Research for FY2017 there are "Scientific Research on Innovative Areas", "Specially Promoted Research", "Scientific Research", "Challenging Research" and "Grant-in-Aid for Young Scientists".

(Note) Concerning JSPS Research Fellows (SPD, PD, or RPD), even if they satisfy the above application conditions, they cannot apply for "Grant-in-Aid for Research Activity Start-up".

(4) Verification of the ID and the Password of the Researcher Belonging to the Research Institution

In order to apply for KAKENHI, researchers should perform the procedures, by accessing the "Electronic Application System", he or she should retain the ID and the Password for e-Rad.

For this reason, the research institution should verify whether researchers who are scheduling to apply have an ID and a Password, or not.

In the case where there is a researcher who has scheduled to apply and who has neither ID nor Password, the research institution should provide him or her with an ID or password in accordance with the following procedure.

1) In order to provide the researcher with an ID and a Password, the research institution needs to have an ID and a Password for use of the research institution. If the research institution has not yet obtained them, it should first of all download a registration form from the e-Rad Portal Site, conduct a registration application in writing.

   It takes approximately two weeks for the "ID and Password for use of the research institution" to arrive after registration application the "Application for Use of the Electronic Application System".

   Note 1 Please refer to "Advance Preparation when Using the System" (http://www.e-rad.go.jp/shozoku/system/index.html) on the e-Rad website for information on downloading the ID and password for e-Rad.

   Note 2 Research institutions that already obtained an ID and a password for e-Rad issued do not need to obtain it again.

   Note 3 It is not necessary to obtain an ID and a password for e-Rad for each research category of the KAKENHI.

2) After obtaining an ID and a Password for use of the research institution, the people in the research institution should provide this ID and password to the researcher who is planning to apply as a Principal Investigator. The ID and password for each researcher is issued through registration of the researcher information in e-Rad. Please refer to the "Manual for Research Institutions to which the Researchers Belong (for Research Institution Office Representatives and for Research Institution Office Workers, section "2. Researcher Information Management")" for information on the concrete way how to provide them.

Note 1 When providing the login ID and password, research institutions must make it known to researchers that they must strictly protect the login ID and password in order to prevent them from being disclosed to others.

Note 2 Once the ID and the password for the researcher have been provided they can be used, even if the research institution changes.

Note 3 Please be sure to obtain and use the latest version of the Operation Manual.

(5) Submission of a "Self-Assessment Checklist on the Improvement of the System and Other Matters", based on the "Guidelines on the Management and Audit of Public Research Funds at Research Institutions (Implementation Standards)"

Because research institutions submitting KAKENHI applications must comply with the content of the "Guidelines on the Management and Audit of Public Research Funds at Research Institutions (Implementation Standards)" (Revised on February 18, 2014) (hereinafter called "Guidelines"), they must set up a system of the management and audit for implementing the public research funds and report the state of implementation and other matters.

Therefore, "those research institutions which Principal Investigators and Co-Investigators (*kenkyū-buntansha*) applying for KAKENHI in 2016 belong to" and "those research institutions which Principal Investigators and Co-Investigators (*kenkyū-buntansha*) of the continued research projects using KAKENHI are scheduled to belong to in FY2017" must submit a "Self-Assessment Checklist on the Improvement of the System and Other Matters" based on the Guidelines to the Office of Research Funding Administration of the Promotion Policy Division of the Research Promotion Bureau of the Ministry of Education, Culture, Sports, Science and Technology (MEXT) by **October 4 (Tuesday), 2016**, using e-Rad. **Please be advised that, in case the report is not submitted, applications of researchers who belong to the research institution in question in the electronic system will not be considered.** (Even if the "Self-Assessment Checklist on the Improvement of the System and Other Matters" based on the "Guidelines on public research expenses" or the "Checklist pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research" has been submitted, it takes approximately one week for researchers belonging to these research institutions before they are able to apply for KAKENHI.)

If the checklist has already been submitted in April 2016 or later through e-Rad when applying for competitive funding or other kinds of funding that is allotted by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) or by independent administrative legal entities under the control of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), it is not necessary to submit it again.

With regard to the checklist submission method, checklist forms and other matters using e-Rad, the research institution should verify the text "Concerning the Form Files 'Self-Assessment Checklist on the Improvement of the System and Other Matters', based on the 'Guidelines on the

Management and Audit of Public Research Funds at Research Institutions (Implementation Standards)'" on the webpage of the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (http://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm).

Note: When using e-Rad, one needs an ID and a Password for use of the research institution

＜Inquiries＞

(Concerning forms of the guidelines and submission)

Office of Research Funding Administration, Promotion Policy Division, Research Promotion Bureau, Ministry of Education, Culture, Sports, Science and Technology (MEXT)

e-mail: kenkyuhi@mext.go.jp

URL: http://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm

(Concerning the research institute e-Rad registration）

Helpdesk of the Cross-ministerial Research and Development management system of the Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Tel.　0570-066-877（Navi Dial）

(office hours: 9:00-18:00, except on Saturdays, Sundays, National Holidays and the New Year Holidays (from December 29 until January 3))

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

(Time period when e-Rad is available for use)

Every day of the week, from 0:00 until 24:00 (in operation 24 hours a day, 365 days a year)

However, even during the above-mentioned time period, it may happen that the operation of e-Rad is 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.

(6) Submission of the "Checklist pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research"

Referring to the "Guidelines for Responding to Misconduct in Research" (Adopted by MEXT on 26 August 2014) (hereinafter: Guidelines on Fraudulent Acts), Research institutes applying for KAKENHI need to establish related provisions.

Furthermore, when applying for KAKENHI, from FY 2017 there is a need to submit a "Checklist pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research" (hereinafter: Checklist pertaining to the Current Status)

Therefore the "research institute to which the principal investigator or co-investigator of a new KAKENHI research project in FY 2017 belong" or the "research institution to which the principal investigator or co-investigator of a research project that will continue to receive KAKENHI in FY 2017 will belong" need to submit the "Checklist pertaining to the Current Status" to the MEXT Science and Technology Policy Bureau, Knowledge Infrastructure Policy Division, Office for Promotion of Correct Research by 4 October 2016 using e-Rad.

Please note that if no submission is made, the applications made by researchers belonging to said research institute cannot be admitted. Even if both the "Checklist pertaining to the Current

Status" based on the "Guidelines on Fraudulent Acts" and the "Self-Assessment Checklist on the Improvement of the System and Other Matters" based on the "Guidelines on public research expenses" are both submitted, it takes about 1 week from submission until researchers can apply for KAKENHI.

* Please note that while the "Checklist pertaining to the Current Status" is similar to the "Self-Assessment Checklist on the Improvement of the System and Other Matters" based on the "Guidelines on public research expenses" in that it uses e-Rad for the submission, the submission destination is different so both checklists must be submitted.

Furthermore, from 15 July 2016 MEXT communiqué onwards, when applying to competitive funds of MEXT or independent administrative institutions managed by MEXT, if the checklists were submitted at the time of application using e-Rad, there is no need to resubmit.
For information regarding the method of checklist application using e-Rad or information regarding the format, please check the MEXT homepage: "(communiqué) Regarding the submission of the "Checklist pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research"(Request)15 July 2016"
（URL:http://www.mext.go.jp/a_menu/jinzai/fusei/1374508.htm）(Website in Japanese)

Note: When using e-Rad, you need an ID and a Password for use of the research institution

＜Inquiries＞
（Concerning the format and submission of Guidelines on Fraudulent Acts） * Differs from the contact information for public research expenses.
Office for Promotion of Correct Research, Knowledge Infrastructure Policy Division,
Science and Technology Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology (MEXT)
e-mail: kiban@mext.go.jp
URL：http://www.mext.go.jp/a_menu/jinzai/fusei/index.htm

（Concerning the research institute e-Rad registration）
The Helpdesk of the Cross-ministerial Research and Development management system of the Ministry of Education, Culture, Sports, Science and Technology (MEXT)
TEL：0570-066-877（Navi Dial）
(office hours: 9:00-18:00, except on Saturdays, Sundays, National Holidays and the New Year Holidays (from December 29 until January 3))
URL: http://www.e-rad.go.jp/shozoku/system/index.html
(Time period when e-Rad is available for use)
Every day of the week, from 0:00 until 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.

(7)Implementation of a Research Ethics Education Course based on the “Guidelines on Fraudulent Acts”

Principal Investigators and Co-Investigators taking part in a new research project have to read and complete the teaching materials concerning the Ethics Education and Research Training Session (For the Sound Development of Science-The Attitude of a Conscientious Scientist- “For the Sound Development of Science” Editorial Committee, E-Learning Course on Research Ethics［eL CoRE］, CITI Japan e-learning program, etc.) or participating in the Ethics Education in Research Training Session based on the “Guidelines for Responding to Misconduct in Research（Adopted August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology（MEXT）） before application.

To that end, each research institution has to implement an Ethics Education in Research Training Session based on the “Guidelines for Responding to Misconduct in Research”

(8) On the Submission of the Report on the Research Achievements

The research institution to which researchers belong has to collect and submit the reports on the research achievements. If the research institution has failed, without good reason, to submit the reports on the research achievements at the end of the research period, it may happen that it is treated as indicated below. 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.

- No KAKENHI will be funded to researchers who do not submit the report on the research achievements at the end of the research period, without good reason. Moreover, it may happen that the decision to grant KAKENHI to the researcher in question is cancelled, or that an order to return the grant is issued. It may also happen that information, such as the name of the research institution to which the researcher in question belongs and other data, is made public.

  Furthermore, if researchers have failed, without good reason, to submit the scheduled report on the research achievements, then implementation of other KAKENHI due to be implemented in the same fiscal year will be suspended.

(9) Obtaining Sufficient Knowledge about the Contents of the Application Procedures

The research institution should beforehand disseminate the contents of the Application Procedures to all the researchers on the campus. JSPS would especially like to request the dispersion of information on the items listed in the Application Procedures and the submission deadlines of application documents, in order to avoid potential misunderstandings.

Moreover, the Application Procedures are available on the section Grants-in-Aid for Scientific Research of the JSPS website (URL:http://www.jsps.go.jp/j-grantsinaid/index.html). The website should be used as a reference.

2. Issues that Need to Be Verified When Compiling the Application Forms (Preparing the Proposal for Grant-in-Aid)

The contents of the Proposals for Grant-in-Aid should be verified in each research institution, and all the Proposals for Grant-in-Aid should be submitted to JSPS together. When doing so, special attention should be paid to the following points.

(1) Verification of the Eligibility to Apply

It should be verified whether the Principal Investigator, the Co-Investigator(s) (*kenkyū-buntansha*) and the Co-Investigator(s) (*renkei-kenkyūsha*) listed in the Proposal for Grant-in-Aid are persons who meet the requirements that are stipulated in the Application Procedures (see page), and also whether the researcher information is registered in e-Rad as "Eligible to Apply for KAKENHI".

Moreover, on this occasion, it should certainly be verified whether the researchers who apply are not persons who have been excluded from receiving KAKENHI, due to an inappropriate use of KAKENHI.

(2) Verification of the Registration of the Researcher Information in e-Rad

Regarding the registration (renewal) of the researcher information necessary when applying, the person in charge in the research institution to which the researcher belongs should perform the procedures using e-Rad.

Moreover, if there is any item, such as the institution, the position, or others, that needs to be corrected, even though he or she has already been included in the researcher list of the research institution, the applicant needs to register the correct information on the researcher list. Therefore, this should be verified.

(3) Verification of the Principal Investigator

The research institution should verify whether the Principal Investigator, the Co-Investigator(s) (*kenkyū-buntansha*), the Co-Investigator(s) (*renkei-kenkyūsha*) who have been listed in the the Proposal for Grant-in-Aid prepared the Proposal for Grant-in-Aid, after verifying the section "II. Details of the Call for Proposals", which are laid down in the Application Procedures.

(4)Verification of the Written Consent of the Co-Investigator (*kenkyū-buntansha*)

For each Co-Investigator (*kenkyū-buntansha*) who has been listed on the Proposal for Grant-in-Aid, that the Principal Investigator prepared, the research institution should check the Grants-in-Aid for Scientific Research Written Consent of the Co-Investigator (*kenkyū-buntansha*) that the Principal Investigator collected.

(5) Verification of the Application Forms

Applicants should verify whether the application forms for grants-in-aid are in conformity with

the prescribed format.

Moreover, the format and other matters of the application forms for each research category are as follows.

<table>
<tr><td rowspan="3">Research category</td><td colspan="2">Proposal for Grant-in-Aid</td></tr>
<tr><td>First part</td><td>Second part</td></tr>
<tr><td>Application information (to be entered in the website)</td><td>Project Description File</td></tr>
<tr><td>Specially Promoted Research (New)</td><td rowspan="16">To be entered in the electronic application system</td><td>S-1-1 (1)
S-1-1 (2)</td></tr>
<tr><td>Specially Promoted Research (Continued)</td><td>S-1-2</td></tr>
<tr><td>Scientific Research (S)</td><td>S-1-6</td></tr>
<tr><td>Scientific Research (A) Research related to the screening panel for “General”</td><td>S-1-7</td></tr>
<tr><td>Research related to the screening panel for “Overseas Academic Research”</td><td>S-1-9</td></tr>
<tr><td>Scientific Research (B) Research related to the screening panel for “General”</td><td>S-1-7</td></tr>
<tr><td>Research related to the screening panel for “Overseas Academic Research”</td><td>S-1-9</td></tr>
<tr><td>Research related to the screening panel for “Generative Research Fields”</td><td>T-1-1</td></tr>
<tr><td>Scientific Research (C) Research related to the screening panel for “General”</td><td>S-1-8</td></tr>
<tr><td>Research related to the screening panel for “Generative Research Fields”</td><td>T-1-2</td></tr>
<tr><td>Challenging Research （Pioneering）</td><td>S-1-26</td></tr>
<tr><td>Challenging Research （Exploratory）</td><td>S-1-27</td></tr>
<tr><td>Grant-in-Aid for Young Scientists (A)</td><td>S-1-12</td></tr>
<tr><td>Grant-in-Aid for Young Scientists (B)</td><td>S-1-13</td></tr>
<tr><td>Continued Research Project (in the case of a major change in the research project)</td><td>S-1-14</td></tr>
</table>

3. Submission and other matters of the Application Forms (Preparing the Proposal for Grant-in-Aid) Outline of the Electronic Application Procedures

(1) The research institution should access the “Electronic Application System”, using the ID and the password for e-Rad, obtain the information of the Proposals for Grant-in-Aid (PDF files) that the Principal Investigators prepared, and verify their contents and other matters.

(2) The research institution should perform the “approval” process on all the proposals for grant-in-aid (PDF files) that have no mistakes in their contents. (It should submit (send) the proposals for grant-in-aid (PDF files) to JSPS.) Moreover, it is not possible to make corrections or other modifications to the Proposal for Grant-in-Aid (PDF file) for which the research institution has already performed the “approval” process.

The deadline for the submission (sending) of the proposals for grant-in-aid is:

November 7 (Monday), 2016, 4:30 pm (This deadline should be observed strictly.)

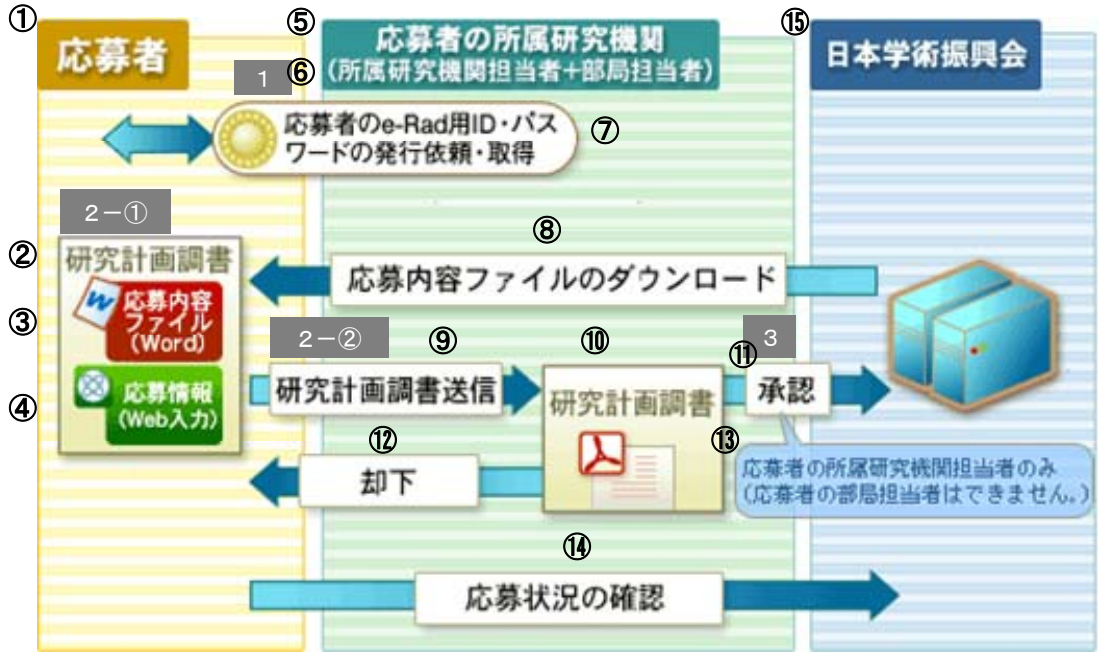
Note 1 Application documents that are submitted (sent) after this deadline will not be accepted. Therefore, the documents should be submitted (sent) well in advance.

Note 2 After the submission (sending) of the application documents, it is not possible to make corrections or to re-submit them.

(3) The ID and the password which are used in the e-Rad are designed to verify the individual. Therefore, the handling and administration of them should be done carefully when carrying out the application procedures.

Moreover, an outline of the procedures for electronic application can be found below. However, for details on the operating environment, procedure, etc. of the “Electronic Application System”, please refer to the “Operation Manual”
（URL:http://www-shinsei.jsps.go.jp/kaken/topkakenhi/shinsei_ka.html）.

Outline of the Electronic Application Procedures



① applicant
② Proposal for Grant-in-Aid
③ Project Description File (Word)
④ application information (to be entered in the website)
⑤ the research institution to which the applicant belongs
⑥ person in charge in the research institution + person in charge in the department
⑦ request for issue and acquisition of the applicant's ID and password for e-Rad
⑧ downloading of the Project Description File
⑨ sending the Proposal for Grant-in-Aid
⑩ Proposal for Grant-in-Aid
⑪ approval
⑫ rejection
⑬ only the person in charge of the research institution to which the applicant belongs (The person in charge of the department of the applicant cannot make an approval.)
⑭ confirmation of the state of the application
⑮ the Japan Society for the Promotion of Science (JSPS)

The person in charge of the research institution to which the applicant (Principal Investigator) belongs

1 The person in charge of the research institution to which the applicant belongs issues the ID and the password to the applicant.

The applicant (Principal Investigator)

2-(1) The applicant accesses the "Electronic Application System", –using the ID and the password he or she received, and prepares the Proposal for Grant-in-Aid (PDF file), by entering the application information (to be entered in the website) and by uploading the Project Description File (items in the attached file).

2-(2) If there are no mistakes in the Proposal for Grant-in-Aid (PDF file) the applicant prepared, he

or she should submit (send) the Proposal for Grant-in-Aid (PDF file) to the person in charge of the research institution to which he or she belongs, by performing the “completed and submission” process.

The person in charge of the research institution to which the applicant (Principal Investigator) belongs

3 By approving the Proposal for Grant-in-Aid (PDF file) the person in charge of the research institution to which the applicant belongs submits (sends) it to JSPS.

Moreover, if the Proposal for Grant-in-Aid (PDF file) that the applicant submitted is not approved due to mistakes or other reasons, it will be rejected and the applicant will be requested to make corrections.

VI. Related Important Points etc.

1. Concerning support through Grant-in-Aid for Scientific Research on Innovative Areas—Platforms for Advanced Technologies and Research Resources

In order to answer to the diverse needs of researchers of KAKENHI research projects, the Grant-in-Aid for Scientific Research on Innovative Areas―Platforms for Advanced Technologies and Research Resources forms a resource and technical support platform for research (hereinafter: "Platform") with the close cooperation of related institutes with inter-university research institutes and Joint Usage / Research Centers as core institutes. Together with providing technical support towards individual research projects and providing advanced problem solving methods to researchers, it provides an integral promotion of cooperation between researchers, interdisciplinary integration, and human resources development.

Applications for technical support etc. are open for each of the platforms below where it concerns research projects carried out through KAKENHI. Researchers desiring technical support etc. from each of the platforms, are requested to check their respective websites etc. and actively apply.

* "Technical Support etc." points to the sharing of equipment with researchers from a wide range of research fields, technical support and the collecting, conservation, and providing of resources (documents, data, experiment samples, specimen, etc.), and support for conservation techniques etc.

"Advanced Technology Support Platform Program" has scientific value and an advanced nature through the combination of multiple facilities and equipment, and provides shared use of equipment and technical support to researchers in a wide variety of research areas.

"Research Platform Resource Support Program" Collects, conserves, and supplies the resources that are the basis of research (documents, data, experiment samples, specimen, etc.) and also conducts support for conservation techniques etc.

Area	Platform Name	Core Institution	Support Function
Advanced Technology Support Platform Program	Platform of Advanced Bioimaging Support (*)	National Institute for Physiological Sciences National Institute for Basic Biology	Advanced technical support and user training for : • Light microscopy • Electron microscopy • Magnetic resonance imaging • Imaging analysis
	Platform of Advanced Animal Model Support(*)	The Institute of Medical Science The University of Tokyo	Support for constructing animal models, Support for pathological analysis, Support for physiological analysis, and Support for molecular profiling
	Platform for Advanced Genome Science(*)	National Institute of Genetics	Advanced genome analysis (de novo genome sequencing; re-sequencing for genome variation detection; analysis of transcriptome, epigenome and metagenome; ultra-high sensitivity analysis for single cells, single molecules, etc.; big-data analysis and advanced bioinformatics; by using of the latest facilities and technologies)

Area	Platform Name	Core Institution	Support Function
Research Platform Resource Support Program	Platform for Integration and Sophistication of Image Information on Area Studies	National Museum of Ethnology	Digital Picture Library for Area Studies
	Supply Platform of Short-lived Radioisotopes for Fundamental Research	Research Center for Nuclear Physics, Osaka University	Supply short-lived radioisotopes produced by accelerators for fundamental research in various scientific fields.
	Platform of Supporting Cohort Study and Biospecimen Analysis (*)	The Institute of Medical Science The University of Tokyo	Support for cohort study using bioresources, Support for maintaining and utilizing human brain resources, and Support using biospecimen

Also, Committee on Promoting Collaboration in Life Sciences that functions as a general information point and coordinator across the 4 platforms marked with an (*) above is set up. (Core Institution: The Institute of Medical Science The University of Tokyo)

Each platform's website can be found in the link collection below:
URL：http://www.mext.go.jp/a_menu/shinkou/hojyo/1367903.htm

2. Concerning the Promotion of the Shared Use of Research Equipment

In "Reform of Competitive Research Funds: Towards a Sustained Output of Research Achievements (Interim Summary)" (24 June 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.

Furthermore, in "On the Management of Research Organizations and the Introduction of a New, Unified System for the Shared Use of Research Equipment" (November 2015 Science and Technology Council Advanced Research Foundation Subcommittee), the establishment and operation of a "research equipment sharing system on the research organization level" (hereinafter: equipment sharing system) is demanded of universities and national research and development agencies etc.

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.

○"On the Management of Research Organizations and the Introduction of a New, Unified System for the Shared Use of Research Equipment"
(25 November 2015 Science and Technology Council Advanced Research Foundation Subcommittee)
URL:http://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu17/houkoku/1366220.htm

○"A Reform of Competitive Research Funds: Towards a Sustained Output of Research

Achievements (Interim Summary)"
(24 June 2015 Competitive Research Fund Reform Review meeting)
URL:http://www.mext.go.jp/b_menu/shingi/chousa/shinkou/039/gaiyou/1359306.htm

○ On the unification of usage rules for competitive funds
（31 March 2015 agreement of the related ministries liaison conference on competitive funds）
URL:http://www8.cao.go.jp/cstp/compefund/siyouruuru.pdf

3. On the Promotion of the 'Dialogue on Science and Technology with Citizens' (A Basic Course of Action)

In "*On the Promotion of the 'Dialogue on Science and Technology with Citizens' (A Basic Course of Action)*" (June 19, 2010, the Minister of State for Science and Technology Policy and the Experts of the Council for Science and Technology Policy) which has been 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 and other persons who have received an allotment of public research funds amounting more than 30,000,000 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 to ensure the proper implementation of the Dialogue on Science and Technology between Citizens, on the one hand, and researchers and other persons who have received public research funds, on the other hand, 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, for example, Specially Promoted Research, for which researchers receive a relatively high amount of research funds, and the interim assessment of, for example, Scientific Research on Innovative Areas (Research in a proposed research area). Therefore, based on the above-mentioned Basic Course of Action, researchers should disseminate the achievements of research funded with KAKENHI to society and citizens in an even more positive way.

4. Cooperation with the National Bioscience Database Center

The National Bioscience Database Center (http://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 in the researchers community of the research achievements in the area of life science produced in Japan, 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. Furthermore, JSPS would like researchers to understand in advance that, in response to 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
Cf. URL: http://humandbs.biosciencedbc.jp/guidelines/

＜Inquiries＞
Japan Science and Technology Agency, National Bioscience Database Center
Tel. 03-5214-8491

5. On the Inter-University Bio-Backup Project

The purpose of the Inter-University Bio-Backup Project 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 IBBP Center (Inter-University Bio-Backup Project for Basic Biology) (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 IBBP 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 IBBP.

Any researcher who belongs to a university or a research institution may apply for storage. Biological genetic resources that can be stored in IBBP 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 IBBP.

＜Inquiries＞

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

Tel.0564-59-5930, 5931

(Reference 1) Screening Panels and Other Matters

1. Concerning KAKENHI Screening

Omitted

2. Screening Methods, and Other Matters

The screening for KAKENHI 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 application documents (Proposal for grant-in-aid).

The screening takes place behind closed doors. The submitted application documents are not returned to the applicants.

The "details on assessment rules" (Rules concerning the screening and assessment for Grants-in-Aid for Scientific Research, called "screening and assessment rules" below) can be checked on the section Grants-in-Aid for Scientific Research of the JSPS website (URL：http://www.jsps.go.jp/j-grantsinaid/index.html).

(The "screening and assessment rules" for FY2016 will be posted on the JSPS website around early October.)

(1) The screening of "Special Promoted Research" is divided into humanities, social sciences, science and engineering, and biological sciences. Reviewers will select those projects subject to interviews based on the Proposal and Screening Remarks (Screening Remarks are drafted by approx. 3 authors, both domestic and foreign), and perform a screening interview.

(2) The first stage document screening of "Scientific Research (S)", "Scientific Research (A)" and "Scientific Research (B)" (Screening category "General") and "Grant-in-Aid for Young Scientists (A)"is carried out individually by 6 reviewers, while that of "Scientific Research (C)", and "Grant-in-Aid for Young Scientists (B)" is carried out individually by 4 reviewers. A jury of different reviewers from the first stage performs the second stage screening. In addition, in the case of "Scientific Research (S)", a screening interview will be performed.

(3) The screening of "Scientific Research (A)" and "Scientific Research (B) (screening category "Overseas Academic Research") will be performed through a document screening, after which a review board will be conferred, divided between humanities, social sciences, science and engineering, and biological sciences.

(4) The screening of "Scientific Research (B)" and "Scientific Research (C) (screening category "Generative Research Field") will be performed through a review board divided by research field, and if necessary, by a jury through document screening after a prior selection.

(5) The screening of "Challenging Research" will be performed through a review board divided by research field as per "FY 2017 Challenging Research: Preliminary Comprehensive List of Desired Screening Areas", and if necessary, by a jury through document screening after prior selection.

3. Notification of the Screening Results

(1) Specially Promoted Research

1) JSPS will issue a notification in writing on the results of the selection of the research projects for which an interview will be organized. (This is scheduled for March)
2) The Ministry of Education, Culture, Sports, Science and Technology (MEXT) will issue a notification in writing to the research institution on whether the research project has been selected or not, based on the results of the screening. (This is scheduled for early April.)
3) JSPS will issue a notification containing the opinions expressed in the screening results and a summary of the state of the screening to the Principal Investigator of the research project that has been selected. JSPS is also planning to make an outline of the opinions expressed in the screening results available to the general public. Moreover, to Principal Investigators who have not been selected a notification containing the approximate ranking among the research projects that have been screened, in addition to the opinions expressed in the screening results and a summary of the state of the screening, is planned to be issued.

(2) Scientific Research (S)

1) JSPS will issue a notification in writing on the results of the selection of research projects for which an interview will be organized (planned for March).
2) JSPS will issue a notification in writing to the research institution on whether the research project has been selected or not, based on the results of the screening (planned for the end of May).
3) JSPS will issue a notification containing the opinions expressed in the screening results and a summary of the state of the screening to Principal Investigators of research projects that have been selected. JSPS is also planning to make an outline of the opinions expressed in the screening results available to the general public. Moreover, to Principal Investigators whose applications have not been selected and who wish to have the results of the first stage of the screening (document-based screening) disclosed, JSPS is planning to disclose through the electronic application system the approximate ranking per research field (area) and the score (average score) and the "standard-format opinion" given by the judges of the screening committee for each element which is taken into account when rating. Furthermore, in addition to the items mentioned above, JSPS is planning to disclose the "opinions expressed in the screening results" in the case of Principal Investigators of research projects for which an interview have been organized and whose projects have not been selected.

(3) Scientific Research (B/C) (screening division "Generative Research Fields") and Challenging Research（Pioneering/Exploratory）

1) JSPS will issue a notification in writing to the research institution on whether the research project has been selected or not, based on the results of the screening (planned for the middle of July).

2) To Principal Investigators whose applications have not been selected and who wish to have the results of the document-based screening disclosed, JSPS is planning to disclose the approximate ranking per area and other matters through the electronic application system. Moreover, in conjunction with the item mentioned above, JSPS is planning to disclose the "opinions expressed in the screening results" in the case of Principal Investigators of projects for which collegial screening have been organized and whose projects have not been selected.

(4) Research categories other than Specially Promoted Research, Scientific Research (S), Scientific Research (B/C) (screening division "Generative Research Fields"), Challenging Research（Pioneering/Exploratory）

1) JSPS will issue a notification in writing to the research institution on whether the research project has been selected or not, based on the results of the screening (planned for early April).

2) To Principal Investigators whose applications have not been selected and who wish to have the results of the first stage of the screening (document-based screening) disclosed, JSPS is planning to disclose through the electronic application system the approximate ranking per research field (area) and the score (average score) and the "standard-format opinion" given by the judges of the screening committee for each element which is taken into account when rating.

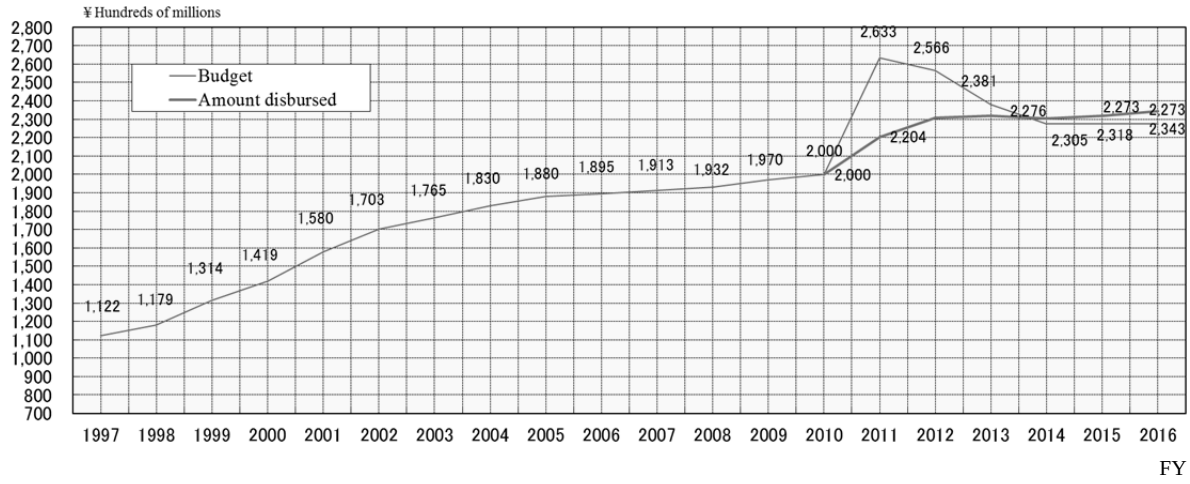
(**Reference 2)**
Procedures on the Handling of Grants-in-Aid for Scientific Research (omitted)

(Reference 3)
Procedures on the Handling of JSPS Grants-in-Aid for Scientific Research (KAKENHI (Series of Single-year Grants)) (omitted)

(Reference 4)
Procedures on the Handling of JSPS Grants-in-Aid for Scientific Research (KAKENHI (Multi-year Fund)) (omitted)

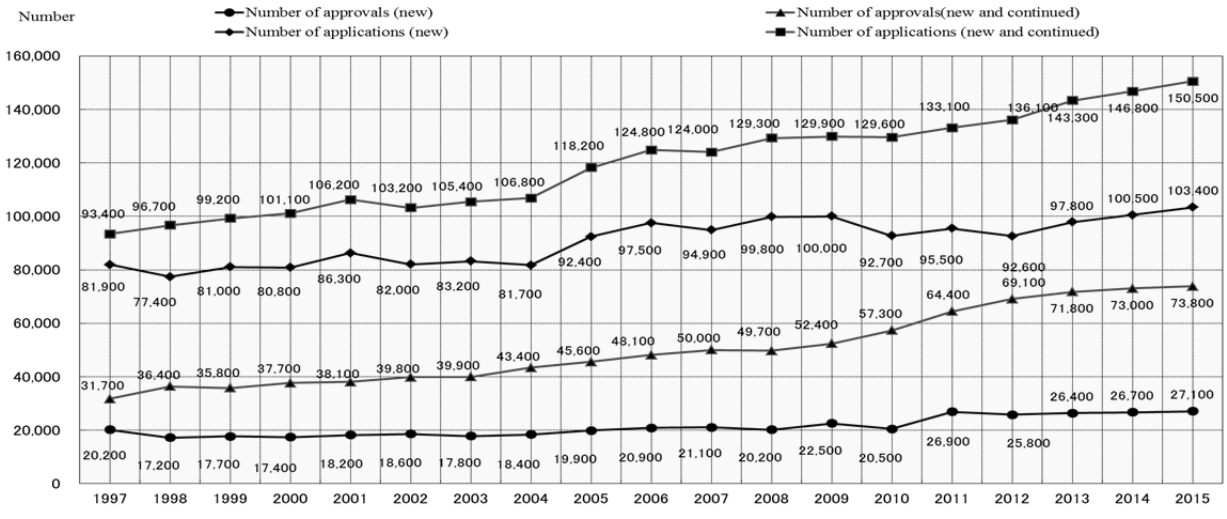
(Reference 5) Changes in Budgets and Other Information

1. Changes in budgets and other information



FY	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Budget (¥ hundreds of millions)	1,122	1,179	1,314	1,419	1,580	1,703	1,765	1,830	1,880	1,895	1,913	1,932	1,970	2,000	2,633	2,566	2,381	2,276	2,273	2,273
Year-on-year increase (%)	10.2	5.1	11.5	8.0	11.3	7.8	3.6	3.7	2.7	0.8	0.9	1.0	2.0	1.5	31.7	−2.5	−7.2	−4.4	−0.1	0.0
Amount disbursed (¥ hundreds of millions)	−	−	−	−	−	−	−	−	−	−	−	−	−	−	2,204	2,307	2,318	2,305	2,318	2,343
Year-on-year increase (%)	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	5	1	−0.6	0.6	1.1

2. State of applications and approvals



3. Approval rate (Upper column: New projects, Lower column: New and continuing projects)

FY	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Approval rate (%)	24.6	22.2	21.8	21.6	21.1	22.7	21.4	22.5	21.6	21.5	22.2	20.3	22.5	22.1	28.1	27.9	27.0	26.6	26.2
Approval rate (%)	34.0	37.6	36.1	37.3	35.8	38.5	37.9	40.7	38.6	38.6	40.4	38.4	40.3	44.2	48.4	50.8	50.1	49.7	49.1

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:

General inquiries about the Application Procedures
Research Aid Planning Division, Research Program Department, Japan Society for the Promotion of Science

Phone: 03-3263-4796

Proposal for Grant-in-Aid
Research Aid Division I, Research Program Department, Japan Society for the Promotion of Science

Phone：03-3263-4758,0996,4779,4724

Specially Promoted Research, Scientific research(S)

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

Phone：03-3263-4254 (Specially Promoted Research)
03-3263-4388 (Scientific Research (S))

S**cientific research (A/B/C), Young Scientists (A/B)**

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

Phone: 03-3263-4758,0996,4779,4724

Challenging Research（Pioneering/Exploratory）
Research Aid Planning Division, Research Program Department, Japan Society for the Promotion of Science

Phone: 03-3263-0977

* Available every day except on Saturdays, Sundays, National Holidays, the New Year Holidays (from December 29 until 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: 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 until January 3)

The following phone numbers are also available: 03-3263-1902, 1913

System Management Team, Policy Planning, Information and Systems Division, Administration Department, Japan Society for the Promotion of Science

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

e-Rad help desk: 0570-066-877 (Navi Dial)

* Available from 9:00 to 18:00 except on Saturdays, Sundays, National Holidays and the New Year Holidays (from December 29 until January 3)
* The following phone numbers are also available: 03-5625-3961

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

Office of Research Funding Administration, Promotion Policy Division, Research Promotion Bureau, the Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Phone: 03-6734-4014

(5) For matters related to Submission of the "Checklist pertaining to the Current Status" based on "Guidelines for Responding to Misconduct in Research" :

Office for Promotion of Correct Research, Knowledge Infrastructure Policy Division,
Science and Technology Policy Bureau,
Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Phone：03-5253-4111

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

National Bioscience Database Center, Japan Science and Technology Agency (JST)
Phone: 03-5214-8491

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

Inter-University Research Institute Corporation National Institutes of Natural Sciences, IBBP Center, Executive Office
Phone：0564-59-5930, 5931

2. The Application Procedures can be viewed on the JSPS website. Application forms can be downloaded from the following website.

JSPS's website on Grants-in-Aid for Scientific Research
URL：http://www.jsps.go.jp/j-grantsinaid/index.html [Japanese]
URL：http://www.jsps.go.jp/english/e-grants/index.html [English]