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

FY2016

Research Activity Start-up

March 1, 2016

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

Introduction

This is the application procedure of “Grants-in-Aid for Scientific Research-KAKENHI-‘Research Activity Start-up FY2016’” listing the necessary procedures and other matters.

It comprises the following sections:

- **Ⅰ Outline of the Grants-in-Aid for Scientific Research-KAKENHI-**
- **Ⅱ Details of the Call for Proposals**
- **Ⅲ Instructions & Procedures for Applicants**
- **Ⅳ Instructions & Procedures for Those Who Have Already Been Accepted**
- **Ⅴ Instructions & Procedures for Research Institution Staff**

Among the above mentioned, there are such items as eligibility for this application call, amount of the grant, research period and other matters, and schedule from application to receipt of funding in the “Ⅱ Details of the Call for Proposals”.

In addition, there are “requirements for applying”, “necessary procedures” and other matters for those who intend to apply in “Ⅲ Instructions & Procedures for Applicants”, “Ⅳ Instructions & Procedures for Those Who Have Already Been Accepted” and “Ⅴ Instructions & Procedures for Research Institution Staff”. Applicants are requested to verify the relevant items of the contents.

The current round of call for proposals opens before the finalization of the budget FY2016 so that the researchers proceed with their preparations for the screening early and that the researchers are able to start their research as early as possible. Therefore, please be advised that financial resources to be allocated and other matters may be subject to change by the overall budget at a later stage.

The major changes in the application procedure for FY2016 are stated in the following page.

Grants-in-Aid for Scientific Research comprise a competitive funding system that provides financial support for creative and pioneering research conducted by individual researchers. Accordingly, the content of the Proposal for Grant-in-Aid made by applying researchers must be original.
In preparing the Proposal for Grant-in-Aid, neither plagiarism nor misappropriation of other's research content is permitted. Applicants must comply with a high standard of research ethics.

＜Major changes to the FY2016 Guidelines＞

1) The contents of the Proposal for "Grant-in-Aid for Research Activity Start-up" have been partially revised. (Please refer to supplement page 23)

Applicants who satisfy eligibility Condition B) should describe the reason for taking maternity/childcare leave and the period (before/after delivery) of the leave in section "Brief Background Description of Research of the Applicant" of the project description file.

2) Restriction on duplicate application and funding has been partially revised. (Please refer to page 25)

Restriction on duplication between the "Grant-in-Aid for Research Activity Start-up" and the "Fund for the Promotion of Joint International Research Returning Researcher Development Research" is added.

3) The appended list of keywords to the "List of Categories, Areas, Disciplines and Research Fields" has been partially revised. (Please refer to page 32)

Per deliberation in the Research Grant Screening Section of MEXT's Academic Deliberation Council for Science and Technology, keywords for the Research Fields "Social systems engineering/Safety system" and "Linguistics" have been partially revised.

4) Regarding participation in a Research Ethics Education course, etc. (Please refer to page 69, page 70 and page 77)

For FY2016 Grants-in-Aid for Scientific Research, Principal Investigators are required to participate in a Research Ethics Education course before applying for funding.

Table of Contents

References

The application forms (Proposal for Grant-in-Aid) and other application materials are stored separately. Please refer to "Supplementary Volume 'Application Procedures for Grants-in-Aid for Scientific Research – KAKENHI - for FY2016 (Research Activity Start-up) (Application Documents: Forms and Guidelines)'".

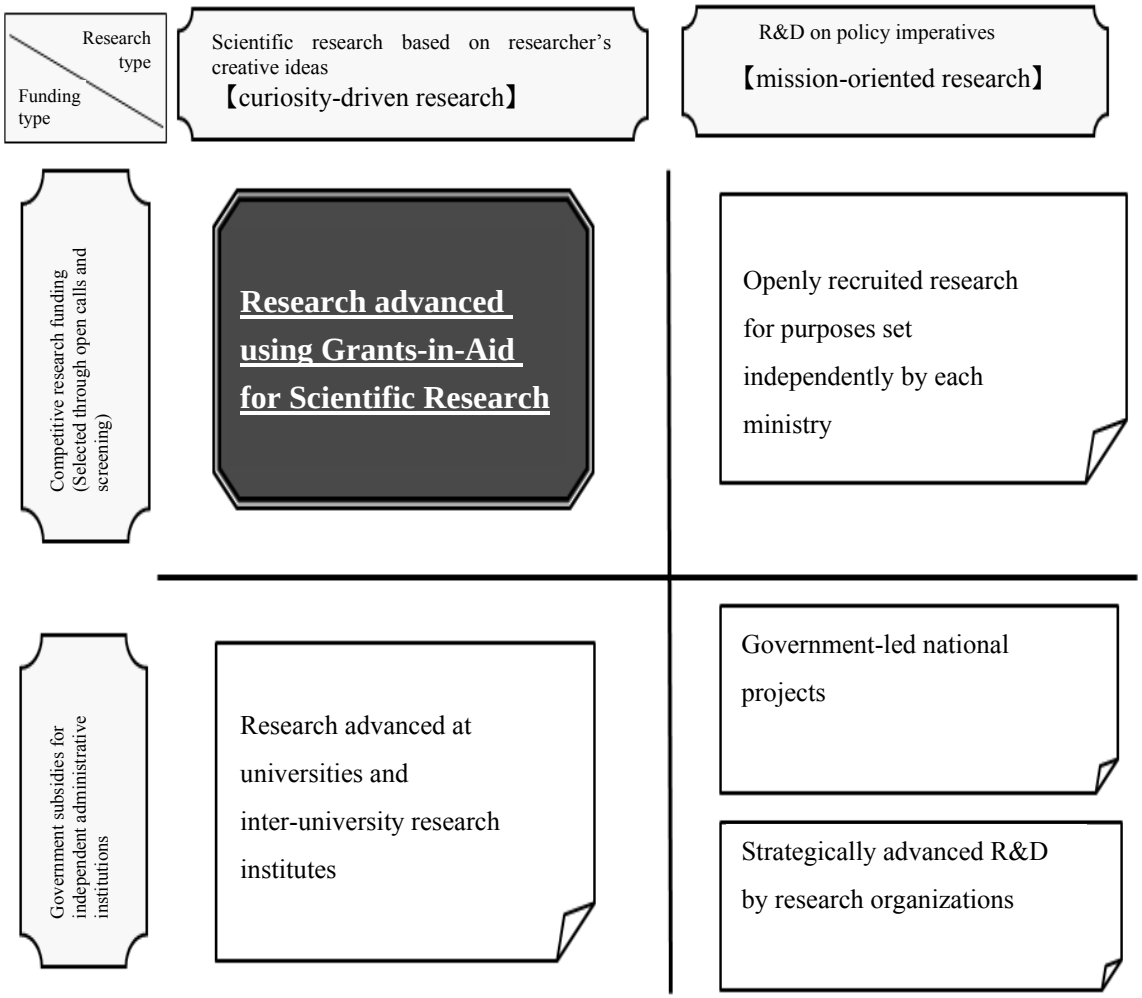
* The application forms (Proposal for Grant-in-Aid) and other application materials can be downloaded from the JSPS website (cf. URL below).
(URL) http://www.jsps.go.jp/j-grantsinaid/index.html

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 and the social sciences to 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 March 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.)
Grants-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.)
Grants-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 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
Grants-in-Aid for Challenging Exploratory Research	Early-stage research conducted by one or multiple researchers which, based on a unique idea, sets a high and challenging goal (The period is one to three years. The budget is up to 5 million yen per project.)
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 leave or other kinds of leave (The period is up to two years. The budget is up to 1.5 million yen per fiscal year.)
Grants-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 Periodicals	Funding for academic journals that are periodically published by an academic association or a cooperative group of academic associations for the purpose of international academic exchange
Scientific Literature	Funding of Scientific Literature issued by an individual or a group of researchers to disclose scientific 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)

*No new invitation for applications is conducted for "Scientific Periodicals".

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). In FY2014, the delivery of grants for "Grant-in-Aid for Special Purposes" has been transferred. The call for proposals, screening and funding are currently being conducted as indicated below.

❖ As of March 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	MEXT	JSPS
Grant-in-Aid for Specially Promoted Research, Grant-in-Aid for Scientific Research, Grant-in-Aid for Challenging Exploratory Research, Grant-in-Aid for Young Scientists, Grant-in-Aid for Research Activity Start-up, Grant-in-Aid for Encouragement of Scientists, Grant-in-Aid for Publication of Scientific Research Results, Grant-in-Aid for JSPS Fellows	JSPS	JSPS

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.

KAKENHI (Multi-year Fund) are governed by the "Basic Policy on the Management of the KAKENHI (Multi-year Fund)", 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 March 2016

<table>
<tr><th></th><th>Application rules</th><th>Assessment rules</th><th>Utilization rules</th></tr>
<tr><td rowspan="2">KAKENHI
(Series of
Single-year Grants)</td><td rowspan="2">MEXT
Procedures on the call for proposals</td><td rowspan="2">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"</td><td rowspan="2">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</td></tr>
<tr><td rowspan="2">KAKENHI
(Multi-year Fund)</td></tr>
<tr><td>JSPS
Procedures on the call for proposals</td><td>JSPS
Rules concerning the screening and assessment for Grants-in-Aid for Scientific Research</td><td>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</td></tr>
</table>

(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. 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.

Furthermore, for "Specially Promoted Research", KAKENHI (Series of Single-year Grants) based on "Acts Incurring Liabilities on the Treasury" will be funded. Since the decision to grant the funding over multiple fiscal years will be made, part of the handling will be different.

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 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, if an amount of money remains unused by the end of the final fiscal year, costs can be carried over to the next fiscal year, by obtaining prior approval for extension of the research period.

(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 failure.

(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.

Moreover, concerning the "Effort", and other matters, necessary for the activity to build a center in the program called "World Premier International Research Center Initiative", it is necessary to fill in the Proposal for Grant-in-Aid. Therefore, when completing this document, the applicant should verify the "Procedures for Preparing and Entering a Proposal".

(*) 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 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 of Funding" or "Specific Research Misconduct"

○ "Fraud, Waste and Abuse", "Fraudulent Receipt of Funding" and "Specific Research Misconduct" 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 of Funding":
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

・"Specific Research Misconduct":
Forging, manipulation, or theft of data or finding in a paper or other published research achievements based on the intent of researcher to fulfill the basic duty of care that s/he 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 specific research misconduct.** Moreover, for research projects for which it is established that a fraud, waste or abuse of grants, a fraudulent receipt of grants or specific research misconduct has been committed, s/he 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 specific research misconduct 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 has committed a fraud, waste, abuse, or fraudulent receipt of competitive funding other than KAKENHI (including funds under the control of other ministries), and/or has committed specific research misconduct 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 FY2015 (and onward) for "competitive funding other than KAKENHI" as well. It also applies to those schemes that ended before FY2014. 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/kyoukin27_seido_ichiran.pdf

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

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

<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.

"Specific Research Misconduct"

<table>
<tr><th colspan="3">Subject of Measures</th><th>Degree of Specific Research Misconduct</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 specific research misconduct 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 specific research misconduct 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 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 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 the authors responsible for the paper(s), etc. in question</td><td></td><td>2 to 3 years</td></tr>
<tr><td colspan="2">(c) Those persons who participated in the specific research misconduct has other than (a) or (b)</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 specific research misconduct has been committed, but who were not directly involved in the specific research misconduct</td><td>Cases where it is judged that the impact on the progress of 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 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>

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 specific research misconduct 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 specific research misconduct 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. , will be treated in the same way, even if it has not been established that he or she was directly involved in the specific research misconduct.

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 (MEXT)" 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 "specific research misconduct"

○ 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 fraudulent use, 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 of Funding

・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.

○ Specific Research Misconduct

・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 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 ☆ TOKIMEKI SCIENCE" 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 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 8 digits" in the case of English or "JSPS 科研費 8 桁の課題番号" in case of Japanese.

〈Example〉
【English】This work was supported by JSPS KAKENHI Grant Number 15K45678.
【Japan】本研究はJSPS 科研費15K45678 の助成を受けたものです。

Furthermore, due to the importance of the efficient analysis of research achievements obtained as a result of KAKENHI, MEXT is considering a general notification concerning the form of including KAKENHI in the Acknowledgement section.

(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, and a significant number of public research funds are obliging or promoting open access publication of funded research achievements. With this in mind, we ask researchers to proactively publish papers funded through KAKENHI in the open access sphere.

【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)

1) In 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.
2) The article's author can bear the cost of the Article Processing Charge (APC) and make the article available in open access.
3) Others (publication of the article on the website of a research community or a public organization and thus make it available in open access form)

* "Embargo"
The period from publication of an article in an academic journal to 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.

7. 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 enable 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.

8. 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/

Please direct inquiries to:
Japan Science and Technology Agency, National Bioscience Database Center
Tel. 03-5214-8491

9. 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.

Please direct inquiries to:
Inter-University Research Institute Corporation National Institutes of Natural Sciences, IBBP Center, Executive Office
Tel.0564-59-5930, 5931

II. Details of the Call for Proposals

1. Research Categories

Grants-in-Aid for Research Activity Start-up (KAKENHI)

(1) Intended for: A research project carried out by one researcher (Principal Investigator) who was unable to apply for a Grants-in-Aid during the previous year's fall application period. The project should contain excellent concepts expected to lead to future research advances by way of the grant support given to its initial research activities.

(2) Amount of Grant: Up to ¥1.5 million per year

(3) Period of Grant: Up to 2 years

(4) Type of Grant: KAKENHI (Series of Single-year Grants)

(5) Pertinent Points:

Applicants must satisfy one of the following two requirements, A) or B), besides meeting the application eligibility requirements. (See pages 22-23 for further details.)

A) Researchers who were not eligible under the Grants-in-Aid* application calls issued by MEXT** and JSPS** during the period from September 1 to November 9, 2015 but who obtained eligibility after November 9.

B) Researchers who were not eligible under the above Grants-in-Aid application calls for reasons of maternity and/or childcare leave.

(*) Pertinent FY2016 Grants-in-Aids: "Grant-in-Aid for Scientific Research on Innovative Areas," "Grant-in-Aid for Specially Promoted Research," "Grant-in-Aid for Scientific Research," "Grant-in-Aid for Challenging Exploratory Research," and "Grant-in-Aid for Young Scientists."

(**) MEXT: Ministry of Education, Culture, Sports, Science and Technology
JSPS: Japan Society for the Promotion of Science

2. Schedule from Application to Receipt of Funding

(1) Procedures That Need to Be Completed Prior to the Deadline for Submission of the Application Documents

The Principal Investigator (the applicant under this Start-up Grant) is to cooperate with the research institution and respond to its requests.

Application Term	**Procedures to be performed by Principal Investigator** (See "Ⅲ Instructions & Procedures for Applicants")	**Procedures to be performed by Research Institution** (See "Ⅴ Instructions & Procedures for Research Institution Staff")
From March 1, 2016 Start Call for Proposals		Procedures to be completed, if necessary 1) The Research Institution obtains an e-Rad ID and password from e-Rad system operator (This does not apply if the research institution has already obtained them.) ※Issuance of the ID and Password takes about 2 weeks. 2) Registration of Researcher Information in e-Rad system and other matters 3) Research institution issue ID and password to Principal Investigator. (This does not apply if the researcher has already obtained an ID and password.)
	Preparing the application Applicants should access the Electronic Application System using an e-Rad ID and Password. ↓ Submission (transmission) of application data Applicants are to submit (transmit) their application data to their research institution department by its deadline.	4) Research institution submits to MEXT the "Self-assessment Checklist on the Implementation of the System" based on the Guidelines. (Deadline for submission: April 18 (Mon)) (to be strictly observed) 5) Research institution submits Form U-3 to JSPS at any time. (Final Deadline for submission: May 2 (Mon) 5:00 pm (to be strictly observed) 6) Research institution submits (transmits) the Grant-in-Aid proposal to JSPS
May 9 (Mon) 4:30 pm **Deadline for Submission** **(to be strictly observed)**		

Notes:

1. After the Principal Investigator submits (transmits) an application to his/her research institution (stated in "Procedures to be performed by Principal Investigator 2)"), the research institution is to submit (transmit) the Grant-in-Aid proposal to JSPS by the submission deadline stated in "Procedures to be performed by the Research Institution 5)."

The principal Investigator should read the information in the section "Preparing and Submitting an Application" (see page 27) and confirm the procedures specified by the research institution, such as deadline for application submission, with the administrative staff in charge of Grants-in-Aid (KAKENHI).

2. When applying for this Grant-in-Aid, the researcher's information is to be registered beforehand in the e-Rad system. As it is the research institution that performs the e-Rad registration, researchers planning to apply should confirm their registration status with the office in charge in their research institution.

3. If the researcher satisfies Condition B), Form U-3 "Background Description Regarding the Eligibility for Grant-in-Aid for Research Activity Start-up FY2016" must be submitted to JSPS before applying. Form U-3 must be prepared and submitted by the research institution, so researchers planning to apply should promptly communicate their intention to the research institution.

4. 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)" (stated in "Procedures to Be Completed by the Research Institution 4)") to the Ministry of Education, Culture, Sports, Science and Technology (MEXT). If the checklist has not been submitted, the applications of researchers belonging to that research institution will not be accepted in the electronic application system.

(2) Schedule After the Submission of the Application (Plan)

June-August 2016: Application Screening

Late August: Notice of Provisional Decision to the Grant

Mid-September: Request for Disbursement

Early October: Notice of the Final Decision to the Grant

Late October: Disburse Grant

III. Instructions & Procedures for Applicants

1. Procedures To Be Completed Prior to Application

The following three procedures must be taken before application: (1) Verification of application eligibility; (2) Verification of registration of researcher's information in the e-Rad system; (3) Researcher's obtaining an ID and password to use in the electronic application system.

(1) Verification of Application Eligibility

A "qualified person" is one eligible to apply for a Grant-in-Aid for Scientific Research as a Principal Investigator. The following 1) and 2) are the eligibility requirements. If qualified applicants belong to more than one research institution, they may apply from either of them. However, they may apply for only one project under the "Grant-in-Aid for Research Activity Start-up." Fellows under the JSPS Research Fellowship for Young Scientists and the JSPS Postdoctoral Fellowship for Overseas Researchers may not apply for a Grant-in-Aid for Scientific Research Start-up. Nor may graduate or other students apply for one. (See exception "note" below.) Therefore, it should be kept in mind that, even if they hold a position in a research institution, students are not eligible to apply for a Grant-in-Aid.

(Exception note) A person who has "student" status but whose main duty is conducting research at a research institution (e.g., university teaching staff, company researcher) is not included under the term "student" in this context.

1) When applying for a Start-up Grant, a person must be recognized as a researcher satisfying the following (1, 2, 3) requirements by his/her research institution, and his/her information must be registered in the e-Rad system as "Eligible to Apply for Grants-in-Aid for Scientific Research (KAKENHI)."

Requirements

1. **The applicant must belong to a research institution (see "Note" below) as a person who has *some* duty to conduct research activities in it.** Whether that work is paid or unpaid, full-time or part-time, does not matter. Moreover, the applicant is not required to perform these research activities as his/her main duty.

2. **The applicant must actually be engaged in research activities at the research institution.** The person is not eligible if s/he is only engaged in research administrative work.

3. **The applicant cannot be a "student."** This does not apply to persons who have student status but conduct research activities as their main duty in a research institution (e.g., university teaching staff, company researchers).

Note: Here, research institutions are those stipulated in Article 2 of "Rules for the Handling of Grants-in-Aid for Scientific Research" announced by MEXT.

Requirements that need to be satisfied by the research institution (see page 71):

- If a KAKENHI grant is provided, the research is to be conducted as an activity of the host research institution.
- If a KAKENHI grant is provided, the research institution is to carry out the management of the grant funds.

2) The applicant must not be listed as "Ineligible to receive funding" in FY 2016 for reasons of having committed fraud, waste, abuse or fraudulent receipt of KAKENHI funds and/or other competitive funds, or having committed research misconduct using such competitive funds.

As a rule, persons who are employed through the use of KAKENHI funds (hereinafter called "KAKENHI employees") must concentrate on the work of their KAKENHI employers (hereinafter called "KAKENHI employer's work") as stipulated in their employment contracts. Therefore, depending upon the number of working hours they commit to their KAKENHI employer's work, the researcher may not be allowed to apply for their own KAKENHI grant. However, if KAKENHI employees provide a clear explanation of the time that can be allotted to research outside their KAKENHI employer's work and will conduct that research on their own initiative, it is possible for them to apply for a KAKENHI grant on condition that the following points are confirmed as being met by their research institution.

- The employment contract must stipulate that KAKENHI employee may conduct research on

his/her own initiative, in addition to the KAKENHI employer's work.

- The working hours, or "effort," must show a clear separation between the KAKENHI employer's work and the researcher's own independent research.
- A sufficient amount of time for the researcher's independent research must be secured in addition to the time spent on the KAKENHI employer's work.

Principal Investigators are stipulated as Principal KAKENHI Users under "the Law on the Improvement of the Administration of the Budget for Grants-in-Aid (1955, Law no. 179)." Therefore, if they should commit an inappropriate act using Grants-in-Aid (KAKENHI), they will be disqualified from KAKENHI grants for a fixed period of time.

In addition, researchers may be treated as indicated below, even when they are registered in the e-Rad system as "Eligible to Apply for Grants-in-Aid (KAKENHI)."

- If a research institution judges that it is not appropriate to allow a researcher to conduct research activities in its institution, it may not accept or may reject his/her Application for Grant Disbursement.
- In the case of a new application for a Grants-in-Aid for Scientific Research by a researcher who has conducted another KAKENHI-funded project but, without proper reason, not submitted a report on the research results at the end of that research period, a new grant will not be provided even if his/her application for it has been screened and selected. In addition, if a researcher fails to submit the scheduled report on a project's research results without proper reason, the implementation of other KAKENHI-funded project(s) in that fiscal year will be suspended.

Applicants for a "Grant-in-Aid for Research Activity Start-up" are required to possess the above-stipulated eligibility at the time of application. They must also satisfy one of the following two requirements, A) or B), to be confirmed by their research institution.

Requirements:

A) Researchers who were not eligible under the Grants-in-Aid application calls issued by MEXT and JSPS during the period from September 1 to November 9, 2015 but who obtained eligibility after the November 9 deadline.

B) Researchers who were not eligible under the above Grants-in-Aid application calls for reasons of maternity and/or childcare leave.

Examples of Persons Eligible to Apply for the Grant

Persons who satisfy one of the conditions, A) or B), are eligible.

Condition A)

1) Persons who were newly hired by a Japanese research institution or employed by an overseas or private company on or after November 10, 2015 (after the deadline for the 2015 application period).

2) Persons who were hired as educational specialist without KAKENHI eligibility, then hired as researcher on or after November 10, 2015, obtaining the eligibility.

3) Researchers who had eligibility but lost it due to being employed at an overseas research institution then regained it on or after November 10, 2015.

Condition B)

Persons who were unable to apply for a Grant-in-Aid during the 2015 application period for reason of maternity and/or childcare leave. In this case, it is allowable for the researcher to have taken the leave during the 2015 application period.

*Attention:

If a researcher who satisfies Condition A) was, for some reason outside his/her control, erroneously registered in e-Rad as "Eligible to Apply for Grants-in-Aid for Research" on November 9, 2015 (FY2016 application deadline for Grants-in-Aid), or if a researcher satisfies Condition B), his/her research institution must prepare a Form U-3 "Background Description Regarding the Eligibility for Grant-in-Aid for Research Activity Start-up FY2016" and submit it to JSPS by May 2, 2016. If the form does not arrive at JSPS by this date, the researcher will not be able to prepare his/her research proposal on the electronic application system. Therefore, researchers should communicate their intention to apply for this grant to their research institution early.

Form U-3 must arrive at JSPS's Research Aid Division II by 5 p.m. (Monday) May 2, 2016. Irrespective of the reason, forms that do not meet the deadline will not be accepted; therefore, applicants should confirm the application requirements well in advance.

Note 1 If a person does not satisfy one of the eligibility conditions, the mere submission of a Form U-3 will not qualify him/her for Research Activity Start-up support.

Note 2 Researchers whose institution submitted the Form U-3 to JSPS by the deadline can begin accessing the e-Rad system several days after JSPS receives the form. (See "The Accessible Date to the Electronic Application System" referring to the supplementary volume "Application Procedures for Grants-in-Aid for Scientific Research Activity Start-up FY2016 (Application Documents: Forms and Guidelines).")

(2) Verification of Registration of Researcher's Information on e-Rad

A researcher who will apply for a Grant-in-Aid for Research Activity Start-up must be a person eligible to apply at the time of the application submission deadline and be registered in the e-Rad system as "Eligible to Apply for Grants-in-Aid (KAKENHI)." **When applying, therefore, it is necessary for the researcher to confirm the content of his/her e-Rad registration.** As it is the research institution to which the Principal Investigator belongs that performs the e-Rad procedure, applicants should confirm their registration content with their research institution, including the expiration date of their registration within the research institution and their current registration status. If any change has occurred to the researcher's status, such as his/her affiliation or position, the registered information should be updated.

(3) Obtaining an ID and Password for Using the Electronic Application System

An e-Rad ID and password are issued to the researcher when his/her research institution completes registering his/her information in e-Rad system. When applying for the grant, the researcher must access the electronic application system using his/her e-Rad ID and password to prepare the application documents.

The first date that a researcher can access the electronic application system is based on the date that s/he obtains an e-Rad ID and password. For details, see "The Accessible Date to the Electronic Application System" referring to supplement.

Once the ID and password have been provided, the researcher may use them at other research institutions to which s/he belongs. Please take strict control of your ID and password to ensure that they are not lost or stolen.

2. Verification of Restrictions on Duplication

Before preparing their application documents, researchers should confirm that they are eligible to apply for the Start-up Grant and should check the rule regarding "restrictions on duplication."

(1) Restrictions on Duplication in the Basic Policy

In the KAKENHI program, various "research categories" and "screening divisions" are provided based on the research scale, content, and other factors. This makes it possible for researchers to submit research proposals in categories that meet the requirements of their various research formats.

On one hand, JSPS needs to support as many excellent researchers as possible within the constraints

of limited resources. On the other, there exists anxiety about the breakdown of an effective screening system under the weight of an increasing number of applications. Accordingly, JSPS has established a "Rule for Restrictions on Duplication" based on the following principles.

・Support as many excellent researchers as possible within limited resources.
・Suppress a drastic increase of applications through a screening system of each grant category.
・When setting restrictions, place primarily focus on Principal Investigators who bear overall responsibility for project implementation.

Based on these principles, JSPS sets restrictions on duplication (restrictions on application and/or funding receipt) while taking into consideration the purpose, characteristics and other elements of each research categories within the Grants-in-Aid program.

If a research project is deemed to be "duplicate" as defined in the "Guidelines on the Proper Implementation of Competitive Funding," it will likely be judged an "unreasonable duplication" in the screening stage. Therefore, when preparing their Grant-in-Aid proposal, applicants should take this into account.

(2) Restrictions on Duplicate Application and Funding Receipt

1) Under this call for the "Grant-in-Aid for Research Activity Start-up," an individual researcher may apply as the Principal Investigator for one research project.

2) Principal Investigators of other KAKENHI projects during FY 2016 may not apply for the Grant-in-Aid for Research Activity Start-up except in the following cases:

a) Persons who were selected for an Encouragement of Scientists Grant (see "Note" below) under the FY2016 Grants-in-Aid program may also apply for the Start-up Grant if they become eligible during the period from April 2, 2016 to the grant's application submission deadline. However, if selected for both grants, they must stop using the already-disbursed Encouragement of Scientists grant and return those unused funds immediately upon receipt of the Notice of Provisional Decision for the Research Activity Start-up.

Note: Encouragement of Scientists: Supports research carried out by an employee of an educational or research institution or a corporation or any other individual.

b) Fellows under the JSPS Research Fellowship for Young Scientists and JSPS Postdoctoral Fellowship for Overseas Researchers may not apply for a Research Activity Start-up grant. However, they can apply if they become eligible during the period from April 2, 2016 to the application submission deadline. (Example: A person hired as an assistant professor who loses his/her JSPS fellowship eligibility during the above period.) If selected for a Research Activity Start-up grant, the researcher must stop using the already-disbursed Grant-in-Aid for

JSPS Fellows and return those unused funds immediately upon receipt of the Notice of Provisional Decision for the Research Activity Start-up.

3) Under the KAKENHI Multi-year Fund and KAKENHI Partial Multi-year Fund, when the research period is extended in the last fiscal year of a project, the restriction on duplication is not applied during the interval between the extended project and the new project being applied for (except in cases where the researcher took maternity leave or childcare leave).

4) Even when a researcher is eligible to apply for the "Grant-in-Aid for Research Activity Start-up," if s/he is being funded (or will be funded) under the "Fund for the Promotion of Joint International Research Returning Researcher Development Research)," s/he may not apply for the Start-up grant.

(3) Other Important Points

1) Even when multiple applications from a researcher are accepted by the electronic application system, it is possible that his/her applications may not be screened due to the regulation restricting multiple grant applications.

2) If a researcher has application eligibility in two or more research institutions, s/he may apply from any of them. The focus of the multiple grant application restriction will be applied to the Principal Investigator.

3) A researcher must not neglect his/her responsibility as a Principal Investigator due to participation in plural research projects.

4) The Principal Investigators in a Grant-in-Aid for Research Activity Start-up project may apply for a grant in another category in FY 2017. If selected, however, s/he will not receive the second-year Start-up grant.

5) Although there is no restriction on duplicate applications between the KAKENHI program and other competitive funding schemes, applicants should take into account the stipulations in the "Eliminate Unreasonable Reduplication and Excessive Concentration" (page 7) when applying.

3. Preparing and Submitting an Application (Grant-in-Aid Proposal)

A Grant-in-Aid proposal consists of two parts. First part: Application Information (items to be filled out on the electron application system). Second part: Project Description File (items to be filled out in a downloaded file).

The Principal Investigator fills out the online Application Information and downloaded Project Description File, the latter of which s/he then uploads to the Electronic Application System. After preparing his/her proposal for a Grant-in-Aid for Research Activity Start-up grant, the Principal Investigator submits (transmits) it to his/her research institution department by the deadline it sets.

Details on preparing a Grant-in-Aid proposal and on how to apply for a grant are described as follows. The applicant should confirm this information.

(1) Preparing a Grant-in-Aid Proposal

When applying, **applicants should first access the Electronic Application System using the e-Rad ID and password provided by their research institution, and then prepare their Grant-in-Aid proposal.**

Proposal for a Grant-in-Aid

A Grant-in-Aid proposal comprises two parts.

First part: **Application Information** posted on the electronic application system (see Note 1).

(Note1) Information to be filled out by the Principal Investigator via the electronic application system includes the title of proposed project and basic data on the project.

Second part: **Project Description File** (see Note 2) downloaded from the "Grants-in-Aid for Scientific Research" section of the JSPS website (http://www.jsps.go.jp/j-grantsinaid/index.html). It should be prepared and then uploaded to the electronic application system. The research proposal will be created in PDF format. **(Paper-based applications are not accepted.)**

(Note2) Details on the research project including its purpose, plan and methods are to be described.

Research Category	Proposal for Grant-in-Aid	
	First part	Second part
	Application Information (to be filled out on the website)	Project Description File
Grant-in-Aid for Research Activity Start-up	To be prepared on the electronic application system	Form S-1-17

※ The form in the Project Description File can be downloaded from the "Grants-in-Aid for Scientific Research" section of JSPS's website before the Principal Investigator obtains an e-Rad ID and password.

(2) Application via the Electronic Application System

1) Researchers who apply as a Principal Investigator should prepare their Grant-in-Aid proposal (PDF file) consisting of the Application Information (items to be filled out on the website) based on the "FY2016 Procedures for Preparing and Filling out Application Forms," and a separately prepared Project Description File (items to be filled out on a downloaded file), which is then uploaded to the Electronic Application System.

2) A copy of the research grant proposal, prepared **in black-and-white (gray scale) print,** is forwarded to the screening committee. Therefore, when preparing their proposals, applicants should take care that they print out in clearly readable letters.

3) The research institution to which Principal Investigators belong compiles their applications and submits their Grant-in-Aid proposals to JSPS.
Principal Investigators **must submit (transmit) their Grant-in-Aid proposal to their research institution department by the deadline it sets. (Application forms may not be submitted (transmitted) directly to JSPS.)**

When submitting (transmitting) them, applicants should confirm the contents of their Grant-in-Aid proposal (PDF file), and then perform the "completion and submission" process. (This is to submit (transfer) your grant proposal in PDF file to the research institution.) The proposal may not be corrected or modified after the research institution begins its approval processing.

4) The personal information included in your research grant proposal will be used to eliminate unreasonable reduplication and excessive concentration of competitive funding and to carry out the operation of the KAKENHI program, including providing the personal information to private companies commissioned to process and manage the data. The information will also be provided to the e-Rad system, and in some cases, it may be forwarded via e-Rad to the Cabinet Office. Therefore, the applicant may be requested to cooperate in various ways, such as in carrying out data processing or verifying information.

Information on selected research projects (e.g., title of proposed project, name of Principal Investigator, scheduled amount of grant) is considered to be "information planned to be made public" under 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 the National Institute of Informatics, and other means.

Matters to Be Considered When Preparing a Grant-in-Aid Proposal

When preparing a Grant-in-Aid proposal, applicants should check the following points to see whether there are any flaws in their proposal's content.

1. Whether the Research Project Is Applicable

The following research projects are not applicable:

A) Research projects that merely aim to purchase ready-made research equipment.

B) Research projects that aim to produce large-size research equipment or similar things that should be funded by other budgets.

C) Research projects that are directly aimed at developing and selling goods or services (including market-trend surveys on the development and sale of goods and services).

D) Funded research that is carried out as a commercial business.

E) Research projects with a budget of **less than 100,000 yen** in any fiscal years of their implementation period.

2. Whether the Following Requirements Are Satisfied with Regard to the Project Members

When the content of the project plan requires it, the Principal Investigator of a Start-up project may set up a project team with research collaborators.

It is necessary for the Principal Investigator to be registered as eligible for a KAKENHI grant on the e-Rad system at the time of application and for his/her research institution to confirm that s/he satisfies the program's application eligibility requirements. However, research collaborators do not need to be registered on the e-Rad system.

1) Principal Investigator (the applicant)

(A) The Principal Investigator is a principal KAKENHI user and the person who carries out a funded project and assumes overall responsibility for its implementation. S/he also compiles and reports the project results. Therefore, researchers who expect that they may lose their application eligibility during a project's implementation period—thus not being able to carry out the responsibility of Principal Investigator to the project's completion—should refrain from becoming the Principal Investigator. (See note.)

(Note)
The Principal Investigator assumes full responsibility for implementation of the research plan, and thus plays the central role in the project. Persons, who, at the time of application, are expected to lose their eligibility to apply for a grant during the research period due to retirement or other reasons—thus, become unable to carry out their responsibility to the completion of the project—are requested to refrain from becoming a Principal Investigator. In addition, the principal investigator may not be substituted or replaced during the project period..

(B) Apart from being registered on e-Rad as eligible for Grants-in-Aid (KAKENHI), principal investigators may not be listed as "Ineligible to receive funding" in FY2016 due to having committed fraud, waste, abuse or fraudulent receipt of a KAKENHI grant and/or other competitive funding, or having committed research misconduct in the use of competitive funding.

2) Research Collaborators

(A) A Research collaborator is a person other than the Principal Investigator who cooperates in the implementation of a research project.

(Examples of a Research Collaborator are a postdoctoral researcher, a research assistant (RA), a JSPS Fellow, a researcher affiliated with an overseas research institution, a researcher belonging to a corporation that is not recognized under Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research, other persons offering research support such as technical experts or intellectual property specialists)

(B) It is not necessary for research collaborators to be registered on the e-Rad system as "Eligible to Apply for Grants-in-Aid for Scientific Research (KAKENHI)."

3. Whether the Project Budget Satisfies the Following Requirements

1) Objective Costs (Direct Costs)

These are the budget necessary to implement the research plan including the compilation of the project's results.

* If the cost of equipment, travel, or personnel (wages/remunerations) exceeds 90% of a fiscal-year's budget, or if other costs take up a particularly large percentage of the budget in any fiscal year, the applicant should provide the reasons why these costs are needed to implement the research in his/her grant proposal.

2) Non-objective Costs

The following costs are not included under grant funding

A. Costs of buildings and other facilities, except for the cost of minor installation of items purchased with direct funding

B. Costs of handling accidents or disasters that occurred during a project's implementation period

C. Wages or remunerations for the Principal Investigator

D. Other costs that would be inappropriate for coverage under indirect funding*

* The above costs are those necessary for management and other processes carried out by the research institution during a project's implementation period. They accounts for 30% of the direct costs, and are used by the research institution. Indirect costs are scheduled to be provided for 2015 Grant-in-Aid for Research Activity Start-up projects, although the Principal Investigator will not be required to list the indirect costs in his/her application documents.

4. Selecting a Prospective Area for Screening When Applying

When applying, applicants are to select a prospective research area for application screening from the eight areas listed below. The areas should be chosen by considering the content of the research plan. Applicants are also to select the most closely related research field from **the "List of Categories, Areas, Disciplines and Research Fields"** (hereafter called "List of Research Fields"; see Table 1 on pages 32-34).

If you select a research field tagged [A], [B] or [C] in Table 1, you must also select [A], [B] or [C] from attached Table 2 "Appendix Table of Keywords" (hereafter called "Table of Keywords"; see pages 35-68).

	Humanities and Social Sciences	**Science and Engineering**	**Biological Sciences**
Prospective Area for Screening	1)Humanities 2)Social Sciences	3)Mathematical and Physical sciences 4)Chemistry 5)Engineering	6)Biology 7)Agricultural Sciences 8)Medicine, dentistry, and pharmacy

Note: Even if the closest related research field is found to be one of those in the "Integrated Disciplines", please select one of the 8 categories as you preferred screening division.

Attached Table 1 List of Categories, Areas, Disciplines and Research Fields

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.

Category: Integrated Disciplines

Area	Discipline	Research Field	Item Number	Remark
Informatics	Principles of Informatics	Theory of informatics	1001	
		Mathematical informatics	1002	
		Statistical science	1003	
	Principles of Informatics	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/	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

Area	Discipline	Research Field	Item Number	Remark
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	
		Medical Physics and Radiological Technology	8005	
		Pain science	8004	
	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	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	

Attached Table 2 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) 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

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: Principles of Informatics

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

（Discipline: Human informatics）

Item Number	Research Field	Screening Sub-panel Number	Keyword
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
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		[Web informatics]	
		A	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
			[Service informatics]	
		B	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		[Library and information science]	
		A	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
			[Humanistic social informatics]	
		B	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
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

(Discipline: Environmental conservation)

Item Number	Research Field		Screening Sub-panel Number / Keyword
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
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		[Food and cooking]	
		A	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		[Social systems engineering]	
		A	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
			[Safety system]	
		B	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
2202	Natural disaster / Disaster prevention science		[Earthquake and volcano disaster mitigation]	
		A	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
			[Natural disasters]	
		B	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				[Biomedical engineering]
		A		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
2304	Rehabilitation science/ Welfare engineering				[Rehabilitation science]
		A	1	1	Rehabilitation medicine
				2	Disability science
				3	Physical therapy
				4	Occupational therapy science
				5	Speech language and hearing therapy
				6	Social welfare and health science
				7	Artificial sensory organs
			2	8	Gerontology
				9	Clinical psychotherapy
		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				[Developmental mechanisms and the body works]
		A		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				[Sports science]
		A	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
2403	Applied health science				[Health education/Health promotion activities]
		A	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

（Discipline: Brain sciences）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
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	Chinese philosophy/Thought
		2	Chinese Buddhism
		3	Taoism
		4	Confucianism
		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, musical and other performance
		7	Media arts

Discipline: Literature

Item Number	Research Field		Screening Sub-panel Number / Keyword
3101	Japanese literature	1	Japanese literature in general
			Ancient literature (Nara and Heian periods)
			Medieval literature (Kamakura and Muromachi periods)
			Kanbungaku (Chinese literature in Japan)
			Bibliography and philology
		2	Premodern literature (Edo period)
			Modern and contemporary literature (after Meiji Restoration)
			Literary theory, criticism and comparative literature
3102	Literature in English	1	English literature
			Comparative literature
		2	American literature
			Other literatures in English
			Literary theory, criticism, bibliography and philology

（Discipline: Literature）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

（Discipline: Linguistics）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

Area: Social sciences

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

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
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

（Discipline: Economics）

Item Number	Research Field		Screening Sub-panel Number / Keyword
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	1 Organizational management
			2 Managerial finance
			3 Management information
			4 Business administration
			5 Corporate social responsibility
			6 Management theory
		2	7 Corporate strategy
			8 International management
			9 Management of technology
			10 Business ventures
			11 Human resource management
3902	Commerce		1 Marketing
			2 Consumer behavior
			3 Advertising
			4 Distribution and logistics
			5 Marketing research
			6 Commerce
			7 Insurance
3903	Accounting		1 Financial accounting
			2 Managerial accounting
			3 Auditing
			4 Bookkeeping
			5 International accounting
			6 Tax accounting
			7 Governmental accounting
			8 Environmental accounting

Discipline: Sociology

Item Number	Research Field		Screening Sub-panel Number / Keyword
4001	Sociology	1	1 Social philosophy/Social thought
			2 History of sociology
			3 Sociological Theory / Sociological Methodology
			4 Social System
			5 Social research
			6 Mathematical sociology
			7 Social interaction/Social relations
			8 Social group/Social organization
			9 Institutions/Structure/Social change
			10 Knowledge/Science/Technology
			11 Politics/Power/State
			12 Class/Social status group /Social mobility
		2	13 Family/Kinship/Population
			14 Community/Village/City
			15 Industry/Labor
			16 Sociology of welfare
			17 Culture/Religion/Social consciousness
			18 Communication/Information/Media
			19 Gender
			20 Education/School
			21 Medical sociology /Disability studies
			22 Social problems/Social movements
			23 Discrimination/Social exclusion
			24 Environment/Pollution
			25 International community/Ethnicity
			26 Body/Sports
			27 Self/Identity

(Discipline: Sociology)

Item Number	Research Field		Screening Sub-panel Number / Keyword
4002	Social welfare and social work studies	1	Principles of social welfare/philosophy of social welfare
		2	Social welfare history
		3	Social security / Social welfare policy
		4	Welfare state/ Welfare society
		5	Social work
		6	Poverty/ Public assistance
		7	Child welfare
		8	Women's welfare/ Feminist social work
		9	Social policy and social work with people with disabilites
		10	Social policy and social work with the elderly
		11	Social work with families
		12	Community work/ commumity services/community development
		13	Social work in mental health /social work in health care/ care work
		14	Forensic social work/ social work in juvenile delinquency and criminal justice
		15	Management in social work / Advocacy/evaluation
		16	International social work / NGOs in social welfare
		17	Volunteerism / NPOs in social welfare
		18	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
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, 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
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

Area: Mathematical and physical sciences

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

（Discipline: Physics）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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

（Discipline: Earth and planetary science）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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
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

（Discipline: Applied chemistry）

Item Number	Research Field		Screening Sub-panel Number / Keyword
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
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

Area: Engineering

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

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
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

（Discipline: Mechanical engineering）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
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
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
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
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

（Discipline: Material engineering）

Item Number	Research Field		Screening Sub-panel Number / Keyword
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
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

（Discipline: Process/Chemical engineering）

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
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

（Discipline: Integrated engineering）

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		[Neuroanatomy]	
		A	1	Neural network
		A	2	Neurohistology
		A	3	Molecular neurobiology
		A	4	Neural fine structure
		A	5	Neurohistochemistry and neurocytochemistry
		A	6	Neural development and its abnormality
		A	7	Neural regeneration, remodeling and plasticity
		A	8	Experimental morphology of the nervous system
		A	9	Anatomical study of neuroimaging
		A	10	Neurocytology
			[Neuropathology]	
		B	11	Cellular neuropathology
		B	12	Molecular neuropathology
		B	13	Neurodegenerative diseases
		B	14	Developmental or metabolic disorders
		B	15	Demented disorders
		B	16	Cerebrovascular disorders
		B	17	Brain tumors
		B	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
		A	2	Epigenetics
		A	3	Cancer genome analysis
		A	4	Carcinogenesis
		A	5	Inflammation and cancer
		A	6	Laboratory animal models
		A	7	Genetically-modified animals
		A	8	Oncogene
		A	9	Tumor suppressor gene
		A	10	Signal transduction
		A	11	DNA replication
		A	12	Cell cycle
		A	13	Cancer and heredity
		A	14	Apoptosis
		A	15	Cell polarity
		A	16	Cell adhesion and movement
		A	17	Invasion and metastasis
		A	18	Characteristics of cancer cells
		A	19	Cancer microenvironment
		A	20	Angiogenesis
		A	21	Lymphangiogenesis
		A	22	Stem cells
		A	23	Cellular senescence
		A	24	Cellular immortalization
		B	25	Epidemiologic study
		B	26	Biobank
		B	27	Interaction of gene and environment
		B	28	Prevention and intervention study
		B	29	Chemoprophylaxis
		B	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

Area: Biology

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

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
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

（Discipline:Biological Science）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
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
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

（Discipline:Basic biology）

Item Number	Research Field	Screening Sub-panel Number / Keyword	
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

（Discipline: Applied aquatic science）

Item Number	Research Field		Screening Sub-panel Number / Keyword
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

（Discipline: Agricultural science in society and economy）

Item Number	Research Field		Screening Sub-panel Number / Keyword
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

（Discipline: Agro-engineering）

Item Number	Research Field			Screening Sub-panel Number / Keyword
7502	Agricultural environmental engineering/ Agricultural information engineering	A	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
			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
		B	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
			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

（Discipline: Animal life science）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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

Area: Medicine, dentistry, and pharmacy

（Discipline: Boundary agriculture ）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

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	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
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

（Discipline: Basic medicine）

Item Number	Research Field	Screening Sub-panel Number / Keyword		
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
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

（Discipline: Basic medicine）

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

（Discipline: Boundary medicine）

Item Number	Research Field	Screening Sub-panel Number	Keyword Number	Keyword
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 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

（Discipline: Society medicine）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

（Discipline: Clinical internal medicine）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

（Discipline: Clinical surgery）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

（Discipline: Clinical surgery）

Item Number	Research Field			Screening Sub-panel Number / Keyword
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
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

4. Regarding Participation in a Research Ethics Education Course, etc.

Before applying for funding of a new research project to the FY2016 Grants-in-Aid for Scientific Research, Principal Investigators taking part in a research project funded by KAKENHI, have to do the following regarding Research Ethics Education.

【Obligations of the Principal Investigator】

Read the textbook *For the Sound Development of Science—The Attitude of a Conscientious Scientist* — and other e-learning materials or to participate in a Research Ethics Education course administered by the research institution. (These courses are based on the "Guidelines for Responding to Misconduct in Research", adopted on August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).)

※Participation in a Research Ethics Education course of the Principal Investigator will be confirmed through the JSPS Electronic Application System.

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

1. Handling of Research Projects That Are Scheduled to Be Continued in FY2016 (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 Notice of Provisional Decision to the Grant.)

2. 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 reason. Moreover, it may happen that the decision to grant the funding to the researcher in question may be cancelled, or ordered to return the grant.

Furthermore, if researchers have failed, without reason, to submit the scheduled report on the research achievements, the implementation of other Grants-in-Aid (KAKENHI) in that fiscal year may be suspended.

3. Regarding Participation in a Research Ethics Education Course, etc.

Principal Investigators who conducted a research project during the FY2015 Grants-in-Aid period are seen has having participated in an FY2015 Research Ethics Education course, so Principal Investigators who conduct Continued Research Projects in the FY2016 do not have to participate in a Research Ethics Education course.

Ⅴ. Instructions & Procedures for Research Institution Staff

1. Matters to Be Completed by the Research Institution Beforehand

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

To apply for a KAKENHI grant, a researcher must belong to a designated research institution.

There are four types of research institutions designated as eligible under Article 2 of the Rules for the Handling of Grants-in-Aid for Scientific Research (issued by the Ministry of Education, Culture, Sports, Science and Technology). They are as follows:

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)
To become a research institution under the KAKENHI program, institutions that do not fall under categories 1) to 3) must first be designated by the Minister of Education, Culture, Sports, Science and Technology (MEXT). Therefore, such institutions should consult the Scientific Research Aid Division of MEXT's Research Promotion Bureau beforehand.

Moreover, if a change in the below-listed items is scheduled to occur in a MEXT-designated institution, it should promptly report the content of the change to the Scientific Research Aid Division of MEXT's Research Promotion Bureau.

A) Abolition or dissolution of the research institution,
B) Change in the name and/or address of the institution, or in the name of its representative,
C) Change in matters of law, regulation, endowment acts and other rules that prescribe the purpose of the institution's establishment, its operational content, and/or its internal organization.

The research institution is to meet the following requirements when its researchers implement research activities using KAKENHI funding.

A) When a KAKENHI grant is provided, the research activity is to be conducted as an activity of host research institution,
B) When a KAKENHI grant is provided, the management of the grant funds is to be administered by host research institution.

(2) Verification of Researcher's Eligibility to Apply

Researchers who wish to apply for KAKENHI grant must meet requirements 1) and 2) stated below. Researchers applying for a "Grant-in-Aid Research Activity Start-up" must at the time of application be eligible to apply for a KAKENHI grant, and must also satisfy one of the two conditions stipulated on the following page. Therefore, the research institution should first verify whether the researcher satisfies these requirements.

Fellows under the JSPS Research Fellowship for Young Scientists and JSPS Postdoctoral

Fellowship for Overseas Researchers may not apply for a "Grant-in-Aid for Research Activity Start-up." Nor may graduate or other students apply for one (See "Exception note" below.)
Research institutions should bear in mind that graduate or other students are also not eligible to apply, even if they hold a position and conduct research activities in the institution.

(Exception note) A person who has "student" status but whose main duty is conducting research at the research institution (e.g., university teaching staff, company researcher) is not included under the term "student" in this context.

Researchers who apply for a KAKENHI grant must meet the following eligibility requirements.

1) When applying for a Start-up Grant, the person must be recognized as a researcher satisfying the following (1, 2, 3) requirements by his/her research institution, and his/her information must be registered on the e-Rad system as "Eligible to Apply for Grants-in-Aid for Scientific Research (KAKENHI)."

Requirements

1. **The applicant must belong to a research institution as a person who has *some* duty to conduct research activities in it.** Whether that work is paid or unpaid, full-time or part-time, does not matter. Moreover, the applicant is not required to perform these research activities as his/her main duty.
2. **The applicant must actually be engaged in research activities at the research institution.** The person is not eligible if s/he is only engaged in research administrative work.
3. **The applicant cannot be a "student."** This does not apply to persons who have student status but conduct research activities as their main duty in a research institution (e.g., university teaching staff, company researchers).

2) The applicant must not be listed as "Ineligible to receive funding" in FY 2016 for reasons of having committed fraud, waste, abuse or fraudulent receipt of a KAKENHI grant and/or other competitive funding, or having committed research misconduct using such competitive funds.

As a rule, "KAKENHI employees" must concentrate on the work of their employer as stipulated in their employment contracts. Therefore, depending upon the number of working hours they commit to their employer's work, researchers may not be allowed to apply for their own KAKENHI grant. However, if they provide a clear explanation of the time that can be allotted to doing research outside their employer's work and will do it on their own initiative, it is possible for them to apply

for a KAKENHI grant on the condition that they satisfy the following points as confirmed by their research institution.

- The employment contract must stipulate that KAKENHI employee may conduct research on his/her own initiative, in addition to the KAKENHI employer's work.
- The working hours, or "effort," must show a clear separation between the KAKENHI employer's work and the researcher's own independent research.
- A sufficient amount of time for the researcher's independent research must be secured in addition to the time spent on the KAKENHI employer's work.

Requirements:

A) Researchers who were not eligible under the Grants-in-Aid application calls issued by MEXT and JSPS during the period from September 1 to November 9, 2015 but who obtained eligibility after November 9.

B) Researchers who were not eligible under the above Grants-in-Aid application calls for reasons of maternity and/or infant-care leave.

*Please refer to pages 22-23 for examples of applicants with eligibility.

(3) Submission of the Form U-3 "Background Description Regarding the Eligibility for Grant-in-Aid for Research Activity Start-up FY2016"

If a research institution has researchers who satisfy Condition B), before submitting (transmitting) their Grant-in-Aid proposals to JSPS, must first prepare a Form U-3 "Background Description Regarding the Eligibility for Grant-in-Aid for Research Activity Start-up FY2016" and submit it to JSPS's Research Aid Division II by May 2, 2016. The deadline for receipt of the form is 5 p.m.

In addition, if a research institution has researchers who satisfy Condition A) but were erroneously registered in e-Rad as "Eligible to Apply for Grants-in-Aid for Scientific Research" for reasons beyond their control (example: research institution failed to update their information in e-Rad) on November 9, 2015 (FY2016 application deadline for Grants-in-Aid), the research institution must prepare a Form U-3 and submit it to JSPS before submitting (transmitting) the Grant-in-Aid proposals to JSPS.

Research institutions do not need to compile all the applying researchers on one form, and may submit the forms at any time before the deadline. However, the form will not be accepted after the deadline for any reason, so research institutions should ensure that their researchers know the deadline and the application requirements well in advance.

Note 1 If a person does not satisfy one of the eligibility conditions, the mere submission of a Form

U-3 will not qualify him/her for Research Activity Start-up support.

Note 2 If the institution has researchers who satisfy the eligibility conditions and submits Form U-3 "Background Description Regarding Grant-in-Aid for Research Activity Start-up 2016," the Principal Investigators will be able to access the electronic application system several days after JSPS receives the form.

(4) Registration or Renewal of Researcher Information in e-Rad and Provision of ID and Password

To apply as a Principal Investigator, the researcher's information must be registered in e-Rad as "Eligible to apply for Grants-in-Aid (KAKENHI)."

Regarding the registration or renewal of the researcher's information that is necessary to apply for a grant, the research institution to which s/he belongs must carry out the procedure using e-Rad. (If there has been any change in the applicant's information, such as his/her institution or position, that the information must be corrected even when the applicant is already registered in e-Rad.)

To acquire details on the registration method, the research institution should consult the "Manual for Research Institutions to which Researchers Belong (for Research Institution Office Representatives and for Research Institution Office Workers)".

To apply for a KAKENHI grant, researchers must complete the necessary procedures by accessing the e-Rad system. Accordingly, when a researcher scheduled to apply for a grant does not have an e-Rad ID and password, the research institution should provide them to him/her in accordance with the following procedure. (They are issued by registering the researcher's information in e-Rad.)

There is no period (deadline) for registration or renewal of the researcher's information in e-Rad. Therefore, registration or renewal can be done at any time.

The first date that a researcher can access the electronic application system is based on the date that s/he obtains an e-Rad ID and password. For details, see "The Accessible Date to the Electronic Application System" regarding the 2016 Grant-in-Aid for Research Activity Start-up and refer to supplement.

<u>As proposals for Grant-in-Aid cannot be accepted by JSPS after the submission deadline, please complete the registration (renewal) of the researchers' information in e-Rad as early as possible, so</u>

that they will have sufficient time to submit (transmit) their proposals.

So as to ensure the smooth compilation of grant proposals, research institutions should place importance on conducting related procedures, including circulating information on the procedures within their organizations.

Note 1 The research institutions must instruct researchers to strictly protect their e-Rad ID and password so as to prevent them from being stolen.

Note 2 Once the ID and password have been issued, the researcher may use them at other research institutions.

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

Procedures for research institutions when a researcher scheduled to apply for a grant do not have an ID or password

To provide researchers with an ID and password, the research institution must itself have its own ID and password. If it does not, it should first download a registration form from the e-Rad Portal Site, and complete its registration by submitting a paper-based registration form.

It will take approximately two weeks for the ID and password to be issued to the research institution after its registration form is received.

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

Note 2 Research institutions that already have an e-Rad ID and password need not obtain them again.

Note 3 It is not necessary to obtain an e-Rad ID and password for each Grant-in-Aid research category.

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

Research institutions submitting Grant-in-Aid proposals 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"). Accordingly, they must set up a system for managing and auditing for utilization public research funds and report on the state of its implementation.

Research institutions with Principal Investigators applying for 2016 KAKENHI grants and research

institutions with Principal Investigators scheduled to be provided KAKENHI funding continuously in 2016 are required to submit a "Self-Assessment Checklist on the Implementation 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 **April 18 (Mon), 2016**, using e-Rad. **Please be advised that if this report is not submitted, the electronic application system will not accept that research institution's applications.** (Even when a research institution submits a "Self-Assessment Checklist on the Implementation of the System and Other Matters" it will take about one week for its researchers to be able to apply for a KAKENHI grant.)

If a checklist was already submitted in April 2015 or later via e-Rad on applications for competitive funding or other funding allocated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) or by an independent administrative institution under the MEXT's jurisdiction, the research institution does not need to submit it again.

With regard to the checklist submission method, including checklist forms and procedures using e-Rad, research institutions should refer to "Concerning the Form Files 'Self-Assessment Checklist on the Implementation 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 MEXT's webpage (http://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm).

Note: When using e-Rad, a research institution needs an ID and Password.

Contact Information:

(For inquiries regarding Guideline forms 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

(For inquiries regarding the registration of research institutions in e-Rad)

Helpdesk of the Cross-ministerial Research and Development Management System of the Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Tel. 0120-066-877 (toll-free)
*Above number will be changed to new number below from April 1, 2016.
Tel. 0570-066-877 (navigation dial)
(Office hours: 9:00-18:00, except Saturdays, Sundays, National Holidays and New Year Holidays (from December 29 thru January 3))

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

(Available Time for e-Rad Use)

Operation: Every day from 0:00 until 24:00 (24 hours, 365 days a year)

The operation of e-Rad may be disrupted or suspended when maintenance and inspection are being carried out. When the operation is scheduled to be disrupted or suspended, the date and time will be announced beforehand on the Portal Site.

(6) Enforcement of Research Ethics Education Based on the "Guidelines for Responding to Misconduct in Research"

Before applying for funding, Principal Investigators taking part in a new research project from the FY2016 Grants-in-Aid for Scientific Research period are required to read the textbook *For the Sound Development of Science―The Attitude of a Conscientious Scientist―* and other e-learning materials or to participate in a Research Ethics Education course by the research institution. (These courses are based on the "Guidelines for Responding to Misconduct in Research", adopted on August 26, 2014 by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).)

※Principal Investigators who conducted a research project during the FY2015 Grants-in-Aid period are seen has having participated in an FY2015 Research Ethics Education course.

(7) Submission of the Report on the Research Achievements

The research institution to which Principal Investigators belong is to collect and submit their reports on the research achievements. If a research institution fails, without any reason, to submit these reports at the end of the research period, it may be treated as indicated below. Therefore, it is incumbent on the representative of the research institution to ensure that the reports on the research achievements are submitted without fail.

- No further KAKENHI grants will be issued to researchers who do not submit their reports on the research results at the end of the research period, without reason. Moreover, it may be decided to cancel the KAKENHI grant of the researcher in question or require him/her to return the funding. Information, such as the name of the research institution to which the researcher belongs, may also be made public.

  Furthermore, if a researcher fails, without reason, to submit the scheduled report on the research results, other KAKENHI-funded project(s) s/he is scheduled to implement in that fiscal year will be suspended.

(8) Circulating Information on the Contents of the Application Procedures

The research institution should disseminate in advance the contents of the Application Procedures to all researchers in its organization. JSPS requests research institutions to take care in disseminating

information especially on the items listed in the Application Procedures and the application submission deadlines so as to avoid potential errors and misunderstandings.

The Application Procedures are also posted in the Grants-in-Aid for Scientific Research section of JSPS's website (http://www.jsps.go.jp/j-grantsinaid/index.html). The website should be used for reference.

2. Issues to Be Verified When Compiling Application Forms (Preparing Grant-in-Aid Proposals)

The contents of Grant-in-Aid proposals are to be verified by each research institution, and all the proposals must submitted to JSPS by the deadline. 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 listed in the Grant-in-Aid proposal meets the requirements stipulated in the Application Procedures (see pages 20-23), and whether s/he is registered in the e-Rad system as "Eligible to Apply for Grants-in-Aid (KAKENHI)."

Please verify that the researchers are not persons who have been excluded from receiving KAKENHI grants due to previous misusage or misconduct.

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

Regarding the registration or revision of the researcher's information needed to apply, the applicant's research institution is to perform the procedure using e-Rad. If there has been any change in the applicant's information, such as affiliation or position, the information must be corrected even when s/he is already registered on e-Rad.

(3) Verification of Principal Investigator

The research institution is to verify whether the Principal Investigator shown in the proposal has prepared the Start-up proposal in accordance with "II. Details of the Call for Proposals".

(4) Verification of Application Forms

The research institution is to verify whether the Grant-in-Aid application forms are prepared in the prescribed format.

The application formats are as follows.

Research category	Proposal for Grant-in-Aid	
	First part	Second part
	Application Information (to be filled out on the website)	Project Description File
Grant-in-Aid for Research Activity Start-up	To be prepared in the electronic application system	Form S-1-17

3. Submission of Application Forms (Preparing Grant-in-Aid Proposals) - Outline of Electronic Application Procedures

(1) The research institution is to access the "Electronic Application System" using its e-Rad ID and password to obtain information on the Grant-in-Aid proposals (PDF files) prepared by the Principal Investigators and verify their contents.

(2) The research institution is to perform an "approval" process on all the Grant-in-Aid proposals (PDF files) after verifying that they have no mistakes in their contents. (It, then, submits (transmits) the proposals (PDF files) to JSPS.) Corrections or other modifications may not be made to Grant-in-Aid proposals (PDF file) once the research institution has begun carrying out its "approval" process.

Deadline for the submission (transmission) of Grant-in-Aid proposals at JSPS:

May 9 (Monday), 2016, 4:30 pm (This deadline must be observed strictly.)

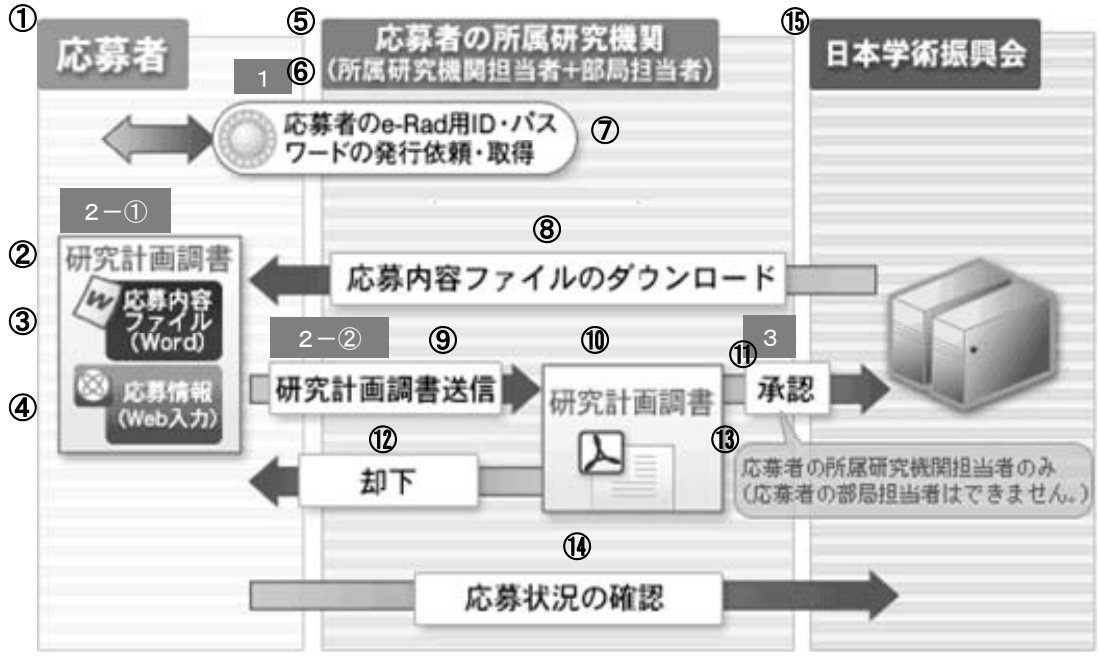
Note 1 Application data that are submitted (transmitted) after this deadline will not be accepted. Accordingly, the data should be submitted (transmitted) well in advance.

Note 2 After the submission (transmission) of the application data, it is not possible to correct or resubmit them.

(3) The ID and password used in the e-Rad system are designed to recognize the holder. Therefore, the handling and management of the ID and password should be done carefully when carrying out the application procedure.

For details on the use of the "Electronic Application System," please refer to its "Operation Manual."

Outline of the Electronic Application Procedures



① applicant
② Proposal for Grant-in-Aid
③ Project Description File (Word)
④ Application Information
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 submitting the Proposal for Grant-in-Aid to the institution
⑩ Proposal for Grant-in-Aid at the institution
⑪ approval of the Proposal by the institution
⑫ rejection of the Proposal and return the Proposal to the applicant
⑬ The process of approval; only the person in charge of the research institution to which the applicant belongs may approve. (The person in charge of the department cannot approve.)
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 from the research institution, and fill out in the Application Information. The Project Description File, firstly downloaded from JSPS website and filled out by the applicant is to be uploaded to the electronic application system and prepares the Proposal for Grant-in-Aid in PDF file.

2-(2) If there are no mistakes in the Proposal for Grant-in-Aid (PDF file) the applicant prepared, he or she is to submit (transmit) the Proposal to the person in charge of the research institution department to which he or she belongs, by performing the "completion 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 (transmits) it to JSPS.

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 returned to the applicant, who is requested to make corrections.

(Reference 1) Screening Panels and Other Matters

1. Concerning KAKENHI Screening

Omitted

2. Screening Methods and Other Matters

The screening for KAKENHI projects is carried out by the Scientific Research Grant Committee of the Japan Society for the Promotion of Science (JSPS) based on the application documents (Proposal for grant-in-aid). The screening is conducted behind closed doors. The submitted proposals 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) are available on the section Grants-in-Aid for Scientific Research of the JSPS website (http://www.jsps.go.jp/j-grantsinaid/index.html).

For Grant-in-Aid for Research Activity Start-up, the screening will be performed through a document-based screening, after which a review board will be conferred, divided between “Humanities”, “Social Sciences”, “Mathematical and Physical Sciences”, “Chemistry”, “Engineering”, “Biology”, “Agricultural Sciences”, “Medicine, Dentistry, and Pharmacy”.

3. Notification of the Screening Results

1) JSPS will send a paper-based notification on whether the research project has been selected or not to each research institution based on the screening results. It is scheduled to be at the end of August 2016.
2) To Principal Investigators whose applications have not been selected and yet wish to know the results of document screening, JSPS is prepared to disclose through the electronic application system the approximate ranking in the research area, the raw score (average score) incorporated with each scoring element by the screening committee and the “standard-format remarks”.

(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) State of Allocation of Grants-in-Aid for Scientific Research for FY2015 and Other Matters

1. State of Allocation of Grants-in-Aid for Scientific Research for FY2015

(1) New Projects

As of September 2015

Research category	Number of proposed projects			Amount allocated	Amount allocated per project	
	Applications	Applications approved	Approval rate		Average	Maximum
	#	#	%	(1,000 yen)	(1,000 yen)	(1,000 yen)
Grants-in-Aid for Scientific Research	〔 97,764 〕 **100,462**	〔 26,355 〕 **26,714**	〔 27.0 〕 **26.6**	〔 66,695,606 〕 **62,906,138** **【 18,766,869 】**	〔 2,531 〕 **2,355**	〔 180,800 〕 **174,800**
Grants-in-Aid for Specially Promoted Research	〔 111 〕 **106**	〔 14 〕 **14**	〔 12.6 〕 **13.2**	〔 1,331,500 〕 **1,435,200** **【 430,560 】**	〔 95,107 〕 **102,514**	〔 174,800 〕 **180,700**
Grants-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area)	〔 6,475 〕 **6,342**	〔 1,035 〕 **1,016**	〔 16.0 〕 **16.0**	〔 6,883,631 〕 **6,793,500** **【 2,038,050 】**	〔 6,651 〕 **6,687**	〔 91,900 〕 **136,900**
Grants-in-Aid for Scientific Research（S）	〔 658 〕 **661**	〔 87 〕 **87**	〔 13.2 〕 **13.2**	〔 3,207,000 〕 **3,296,100** **【 988,830 】**	〔 36,862 〕 **37,886**	〔 89,900 〕 **97,600**
Grants-in-Aid for Scientific Research（A）	〔 2,544 〕 **2,585**	〔 583 〕 **597**	〔 22.9 〕 **23.1**	〔 6,656,300 〕 **6,870,900** **【 2,061,270 】**	〔 11,417 〕 **11,509**	〔 28,400 〕 **29,200**
Grants-in-Aid for Scientific Research（B）	〔 10,863 〕 **11,396**	〔 2,580 〕 **2,638**	〔 23.8 〕 **23.1**	〔 12,446,700 〕 **13,078,800** **【 3,923,640 】**	〔 4,824 〕 **4,958**	〔 15,200 〕 **13,100**
Grants-in-Aid for Scientific Research（C）(*1)	〔 35,329 〕 **36,843**	〔 10,549 〕 **10,975**	〔 29.9 〕 **29.8**	〔 14,905,500 〕 **15,003,800** **【 4,501,140 】**	〔 1,413 〕 **1,367**	〔 3,600 〕 **3,500**
Grants-in-Aid for Challenging Exploratory Research(*1)	〔 15,366 〕 **16,757**	〔 3,950 〕 **3,952**	〔 25.7 〕 **23.6**	〔 5,762,100 〕 **5,628,100** **【 1,688,430 】**	〔 1,459 〕 **1,424**	〔 3,100 〕 **3,100**
Grants-in-Aid for Young Scientists（A）	〔 1,810 〕 **1,736**	〔 409 〕 **389**	〔 22.6 〕 **22.4**	〔 2,917,200 〕 **2,839,800** **【 851,940 】**	〔 7,133 〕 **7,300**	〔 19,700 〕 **17,800**
Grants-in-Aid for Young Scientists（B）(*1)	〔 19,683 〕 **19,272**	〔 5,876 〕 **5,771**	〔 29.9 〕 **29.9**	〔 7,505,400 〕 **7,620,100** **【 2,286,030 】**	〔 1,277 〕 **1,320**	〔 3,000 〕 **3,000**
Grants-in-Aid for Research Activity Start-up	〔 3,689 〕 **3,777**	〔 920 〕 **943**	〔 24.9 〕 **25.0**	〔 940,900 〕 **1,012,900** **【 303,870 】**	〔 1,023 〕 **1,074**	〔 1,500 〕 **1,500**
Grants-in-Aid for Encouragement of Scientists	〔 3,934 〕 **3,959**	〔 711 〕 **709**	〔 18.1 〕 **17.9**	〔 349,907 〕 **349,959**	〔 492 〕 **494**	〔 900 〕 **800**
Grants-in-Aid for Publication of Scientific Research Results	〔 1,014 〕 **949**	〔 439 〕 **403**	〔 43.3 〕 **42.5**	〔 955,200 〕 **914,100**	〔 2,176 〕 **2,268**	〔 18,100 〕 **14,300**
Grants-in-Aid for JSPS Fellows	〔 2,617 〕 **2,495**	〔 2,617 〕 **2,495**	〔 － 〕 **－**	〔 2,914,470 〕 **2,503,600** **【 153,690 】**	〔 1,052 〕 **1,003**	〔 3,000 〕 **3,000**
Total	〔 101,546 〕 **104,093**	〔 29,523 〕 **29,770**	〔 29.1 〕 **28.6**	〔 66,775,808 〕 **67,346,859** **【 18,920,559 】**	〔 2,262 〕 **2,262**	〔 174,800 〕 **180,700**

Notes:
1. The figures in〔 〕indicate the previous fiscal year.
2. The figures in【 】indicate indirect costs (excluded from the total).
3. (*1) As these grants are covered under the multi-year Fund, the columns “Amount allocated” and “Amount allocated per project” are calculated based on the projects’ initial plans for FY 2015.
4. "Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area) 'Support Activity in 3 Areas of Bioscience'", "Grant-in-Aid for Scientific Research (B/C) (Generative Research Fields)", "Grant-in-Aid for Special Purposes" and "Special Grant-in-Aid for Encouragement of Scientists" are excluded.

(2) Newly approved and continued

As of September 2015

Research category	Number of proposed projects		Amount allocated	Amount allocated per project	
	Applications	Applications approved		Average	Maximum
	#	#	(1,000 yen)	(1,000 yen)	(1,000 yen)
Grants-in-Aid for Scientific Research	〔 146,837 〕 **150,463**	〔 72,973 〕 **73,905**	〔 164,376,375 〕 **159,614,859** **【 47,779,470 】**	〔 2,253 〕 **2,160**	〔 174,800 〕 **211,300**
Grants-in-Aid for Specially Promoted Research	〔 171 〕 **166**	〔 74 〕 **74**	〔 5,677,800 〕 **5,646,800** **【 1,694,040 】**	〔 76,727 〕 **76,308**	〔 174,800 〕 **211,300**
Grants-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area)	〔 8,540 〕 **7,930**	〔 3,100 〕 **2,604**	〔 24,909,236 〕 **21,359,360** **【 6,407,808 】**	〔 8,035 〕 **8,203**	〔 91,900 〕 **136,900**
Grants-in-Aid for Scientific Research(S)	〔 990 〕 **994**	〔 419 〕 **420**	〔 12,486,900 〕 **12,279,500** **【 3,683,850 】**	〔 29,802 〕 **29,237**	〔 89,900 〕 **97,600**
Grants-in-Aid for Scientific Research(A)	〔 4,247 〕 **4,232**	〔 2,266 〕 **2,230**	〔 19,291,800 〕 **18,672,300** **【 5,601,690 】**	〔 8,514 〕 **8,373**	〔 28,400 〕 **29,200**
Grants-in-Aid for Scientific Research(B)(*1)	〔 16,625 〕 **17,471**	〔 8,311 〕 **8,682**	〔 31,119,600 〕 **31,150,700** **【 9,345,210 】**	〔 3,744 〕 **3,588**	〔 15,200 〕 **13,100**
Grants-in-Aid for Scientific Research(C)(*2)	〔 56,202 〕 **58,329**	〔 31,389 〕 **32,432**	〔 35,878,997 〕 **35,975,550** **【 10,792,665 】**	〔 1,143 〕 **1,109**	〔 3,600 〕 **3,500**
Grants-in-Aid for Challenging Exploratory Research(*2)	〔 20,045 〕 **21,709**	〔 8,629 〕 **8,904**	〔 10,420,600 〕 **10,546,000** **【 3,163,800 】**	〔 1,208 〕 **1,184**	〔 3,100 〕 **3,100**
Grants-in-Aid for Young Scientists(A)(*1)	〔 2,691 〕 **2,666**	〔 1,279 〕 **1,315**	〔 6,426,498 〕 **6,339,500** **【 1,901,850 】**	〔 5,025 〕 **4,821**	〔 19,700 〕 **17,800**
Grants-in-Aid for Young Scientists(B)(*2)	〔 28,805 〕 **28,329**	〔 14,977 〕 **14,814**	〔 16,042,299 〕 **15,556,919** **【 4,667,076 】**	〔 1,071 〕 **1,050**	〔 3,000 〕 **3,000**
Grants-in-Aid for Research Activity Start-up	〔 4,587 〕 **4,678**	〔 1,818 〕 **1,721**	〔 1,772,738 〕 **1,738,271** **【 521,481 】**	〔 975 〕 **1,010**	〔 1,500 〕 **1,500**
Grants-in-Aid for Encouragement of Scientists	〔 3,934 〕 **3,959**	〔 711 〕 **709**	〔 349,907 〕 **349,959**	〔 492 〕 **494**	〔 900 〕 **800**
Grants-in-Aid for Publication of Scientific Research Results	〔 1,084 〕 **1,012**	〔 509 〕 **466**	〔 1,360,000 〕 **1,293,900**	〔 2,672 〕 **2,777**	〔 31,700 〕 **33,800**
Grants-in-Aid for JSPS Fellows	〔 6,525 〕 **6,429**	〔 6,525 〕 **6,429**	〔 7,091,963 〕 **6,188,880** **【 507,101 】**	〔 1,087 〕 **963**	〔 3,000 〕 **3,000**
Total	〔 154,446 〕 **157,904**	〔 80,007 〕 **80,800**	〔 172,828,338 〕 **167,097,639** **【 48,286,571 】**	〔 2,160 〕 **2,068**	〔 174,800 〕 **211,300**

Notes:

1. This chart combines the figures for newly selected and continuing projects.
2. The figures in〔 〕indicate the previous fiscal year.
3. The figures in【 】indicate indirect costs (excluded from the total).
4. (*1) Among these projects, there are new project that are partially covered under the multi-year Fund; their columns “Amount allocated” and “Amount allocated per project” are calculated based on the projects’ initial plans for FY 2015.
5. (*2) Among these projects, there are new project covered under the multi-year Fund; their columns “Amount allocated” and “Amount allocated per project” are calculated based on the projects’ initial plans for FY 2015.
6. "Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area) 'Support Activity in 3 Areas of Bioscience'", "Grant-in-Aid for Scientific Research (B/C) (Generative Research Fields)", "Grant-in-Aid for Special Purposes" and "Special Grant-in-Aid for Encouragement of Scientists" are excluded.

2. State of Allocation of Grants-in-Aid for Scientific Research (KAKENHI (Multi-year Fund)) for FY2015

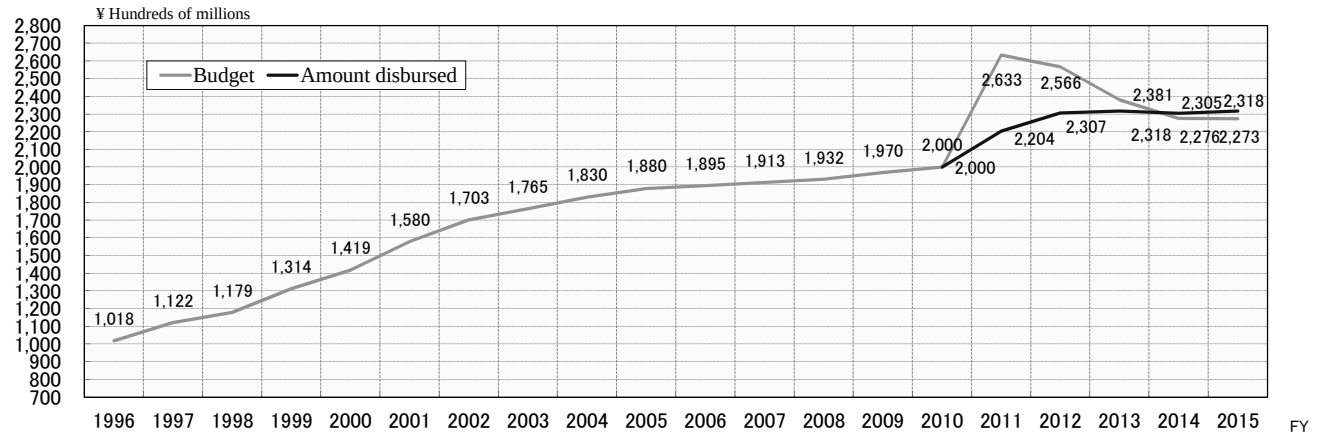
As of April 2015

Research category	Number of proposed projects			Amount allocated	Amount allocated per project	
	Applications	Applications approved	Approval rate		Average	Maximum
Grants-in-Aid for Scientific Research	#	#	%	(1,000 yen)	(1,000 yen)	(1,000 yen)
	〔 70,378 〕	〔 20,375 〕	〔 29.0 〕	〔 63,171,600 〕	〔 3,100 〕	〔 4,100 〕
	72,872	**20,698**	**28.4**	**64,392,800**	**3,111**	**4,500**
				【 19,317,840 】		
Grants-in-Aid for Scientific Research (C)	〔 35,329 〕	〔 10,549 〕	〔 29.9 〕	〔 36,640,000 〕	〔 3,473 〕	〔 4,100 〕
	36,843	**10,975**	**29.8**	**37,490,600**	**3,416**	**4,500**
				【 11,247,180 】		
Grants-in-Aid for Challenging Exploratory Research	〔 15,366 〕	〔 3,950 〕	〔 25.7 〕	〔 10,880,700 〕	〔 2,755 〕	〔 3,300 〕
	16,757	**3,952**	**23.6**	**10,806,800**	**2,735**	**3,300**
				【 3,242,040 】		
Grants-in-Aid for Scientific Research (B)	〔 19,683 〕	〔 5,876 〕	〔 29.9 〕	〔 15,650,900 〕	〔 2,664 〕	〔 3,600 〕
	19,272	**5,771**	**29.9**	**16,095,400**	**2,789**	**3,600**
				【 4,828,620 】		
Total	〔 70,378 〕	〔 20,375 〕	〔 29.0 〕	〔 63,171,600 〕	〔 3,100 〕	〔 4,100 〕
	72,872	**20,698**	**28.4**	**64,392,800**	**3,111**	**4,500**
				【 19,317,840 】		

Notes:
1. The chart is adding up the multi-year Fund, "Grant-in-Aid for Scientific Research (C)", "Grant-in-Aid for Challenging Exploratory Research" and "Grant-in-Aid for Youn Scientists (B)", and is a part of reference4-1(1)
2. The figures in〔 〕indicate the previous fiscal year.
3. The figures in【 】indicate indirect costs (excluded from the total).
4. The amount allocated throughout the research project term is stated in the columns of “Amount allocated” and “Amount allocated per project”
5. "Grant-in-Aid for Scientific Research (B/C) (Generative Research Fields)" is excluded

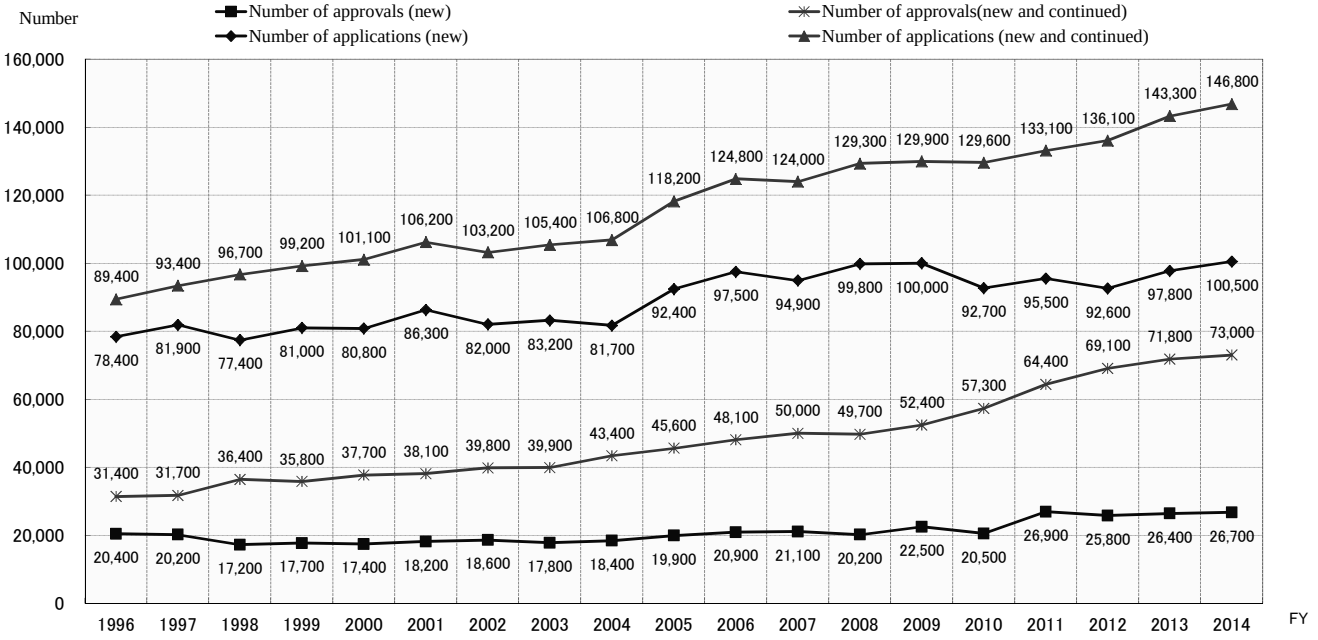
3. Changes in Budgets and Other Information

(1) Changes in budgets and other information



FY	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Budget (¥ hundreds of millions)	1,018	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
Year-on-year increase (%)	10.2	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
Amount disbursed (¥ hundreds of millions)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2,204	2,307	2,318	2,305	2,318
Year-on-year increase (%)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.7	0.5	−0.6	0.6

(2) State of applications and approvals



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

FY	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Approval rate (%)	26.1	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
Approval rate (%)	35.1	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

Inquiries

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

(1) For inquiries concerning the invitation of applications:

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

Phone: 03-3263-0976, 0980, 1041

(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: 0120-066-877 (toll-free)

*Above number will be changed to new number below from April 1, 2016.

Tel. 0570-066-877 (navigation 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)

(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 "the Life Science Database":

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

Phone: 03-5214-8491

(6)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 guidelines 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
http://www.jsps.go.jp/j-grantsinaid/index.html [Japanese]
http://www.jsps.go.jp/english/e-grants/index.html [English]