

# Review Guidelines for World Premier International Research Center Initiative (WPI)

19 January 2017

WPI Program Committee

The selection of projects under the WPI program is carried out under the following guidelines.

## 1. Basic Screening Policy

Projects are to be selected that have highly attractive research objectives and contents and that possess a high feasibility for establishing the following type of research center: Centers of a high quality that will offer strong incentive for many of the world's top researchers to want to work at them; that is, centers whose excellent research environment and extremely high research standard will make them "globally visible."

## 2. Screening Procedure

### (1) Procedure

In vetting applications for this program the WPI Committee (hereafter referred to as the Committee) carries out a three-stage process of document and panel reviews. Under the Committee, the first document review is carried out by the "first screening committee," the second document review by the "second screening committee," and a panel review (hearing) by the "third screening committee." The Japanese members of the Committee will conduct the second document screening and the Committee members will conduct the hearings. A quorum comprises half the established number of Committee members and half of screening committee members. Decisions are made by a vote of a majority the attending committee members.

#### < Screening Process >

##### <1st screening >

Based on a review of the mailed in application documents (e.g. an outline of the center's project plan), this screening committee will refer up to eight applicants to the second screening committee.

##### <2nd screening >

The first-round selected centers will submit a more detailed application to the second screening committee, which will, using as reference the first screening results, conduct a second document review and select up to four center projects for referral to the third screening committee.

##### <3rd screening (hearing) >

The third screening committee will conduct hearings on the centers selected

in the second round, and choose the two most qualified ones from among them and refer them to MEXT, which will make the final selections.

(2) Procedure for carrying out the first screening

- The WPI secretariat will mail the submitted application packages to the members of the first screening committee in advance.
- Based on the application documents, the first screening committee conducts a review of the applying centers, placing special emphasis on the scientific level of their projects. The committee members deliberate and select up to eight center projects to refer to the second screening committee. If any special reasons exist for not selecting other projects, the committee should verify them and submit them to the secretariat.
- The secretariat will speedily notify MEXT of the first screening results and will also inform it of any comments that the screening committee made.
- After the MEXT's confirmation of the first screening results, the secretariat will inform the selected centers of the second screening and instruct them to submit their second more-detailed applications to the secretariat by a prescribed date.
- Based on the selection report it receives from the secretariat, MEXT will quickly inform the non-selected centers of the results. If the screening committee submitted comments regarding a center, MEXT will forward the comments in addition to the screening results to the center.

(3) Carrying out the second screening

[1] Procedure

- A number of mailed in document reviewers will be selected based on the guidelines stipulated in "Implementation of Document Reviews" (Attachment).
- The reviewers will be sent a set of second screening application documents received by the prescribed deadline.
- Using the Document Review Form (separately prepared), based on this "review guidelines", the reviewers will evaluate the contents of the applications and send their results to the secretariat by the specified date.

[2] Selecting candidates for the panel review (2nd screening)

- The secretariat sends the set of second-screening applications received from the centers by the prescribed deadline to each member of the second screening committee.
- Consulting together, the members of the second screening committee review the forwarded applications based on the more detailed second-round documents submitted by the centers and the results from the mail reviewers. It selects up to four centers and refers them to the third selection committee. When the committee has special reasons for non-selections, it verifies and sends them to

the secretariat.

- The secretariat speedily notifies MEXT of the second screening results, and informs it of any comments submitted by the committee.
- Following MEXT's verification of the results, the secretariat speedily informs the selected centers of the time and place for their third screening, letting them know that it will take the form of a hearing.
- Based on the selection report it receives from the secretariat, MEXT will quickly inform the non-selected centers. If the screening committee submitted comments regarding a center, MEXT will forward the comments to the center in addition to the results.

#### (4) Carrying out the third screening

##### [1] Procedure

- Documents that applicants wish to be used in the hearing, other than the second screening application materials, should be submitted to the secretariat in advance. Those not sent in advance are prohibited from being used. The secretariat will send a set of hearing materials to the Committee members in advance. (They will include the second-screening applications and be written in English.)
- The hearings will be conducted based on the Panel Review (Hearing) Guidelines (prepared separately) with the chief entire-project officer and chief center-project officer of the applying centers. The hearings will be conducted in English. Questions and answers should as a rule also be in English.
- The reviewers shall, based on these Review Guidelines, evaluate each center project and record their scores and remarks on the Panel Review Form. The secretariat will tally the scores and report them to the Committee.

##### [2] Selecting the grantees

- Based on the hearing results, the Committee members shall deliberate and decide the projects to be selected. The reasons for their selection are to be noted, and the selection results reported to the secretariat. At that time, if there are areas deemed to require improvement, they shall also be reported to the secretariat. Regarding the projects that were not selected, the reasons their non-selection shall be noted and reported to the secretariat.
- The secretariat will compile the hearing results and speedily report them to MEXT.
- Based on the report received from the secretariat, MEXT will make the final decision on the selected center projects. MEXT will, then, notify the host institutions of the selected centers of its decision. It will also inform them of any comments offered by the screening committee on improvements needed and request the centers to make those improvements.
- Based on the report received from the secretariat, MEXT will inform the host

institutions of the non-selected centers and notify them of the screening committee's review results.

### 3. Screening Criteria

#### (1) Evaluating the center projects

##### 1. Overall framework of the center project

###### 1-1. Identity

- Does the center have a clearly articulated identity?

###### 1-2. Goal setting

- Has the center set goals that will achieve the objectives of the WPI program (at both the times of the project's interim and final evaluations) and are the goals high enough to establish the center as top world-level research institute?

##### 2. Level of research

###### 2-1. Fields of research

- Will the advancement of the research domain be of significant scientific and societal importance, and is the choice of the research domain and neighboring fields suitable in the light of research trends both in Japan and abroad?

###### 2-2. Research objectives

- Are the stated research objectives achievable? If achieved, will the results be appraised as being top word level?
- Do the objectives seek to challenge and resolve world-level scientific issues? Can their achievement be expected to exert an impact on society?
- Is the research plan concrete and will it be effective in achieving the project objectives?
- Are the objectives articulated in such a way as to be easily understandable by the general public?

###### 2-3. System for advancing the research (e.g. researchers comprising the center)

- Does the center have a physical concentration (or core) of researchers of a certain scale, one that possesses a high research level?
- Is the research group an appealing one? Does it have an effective strategy for inviting principal investigators?
  - As required in section 5. (4) a. and b. of the Application Guidelines, does the center's plan provide for at least 7-10 world-class principal investigators (full professors, associate professors or others of comparable standing), at least 20% of whom are foreign researchers invited from abroad, while the remainder come from within the host institution or are invited from other Japanese institutions? Does it set a target for the staffing of at least 70-100 staff members including young postdoctoral researchers, research support staffs, and administrative employees? Does it have an effective plan for ultimately

meeting staffing targets according to a time schedule?

- Will at least the half of the principal investigators who form the core of the project rank among the world's top researchers?
- If a center plans to form satellites or organic linkages with other domestic/overseas organizations, and to carry out collaboration and do equipment/facility sharing with such organizations, and has devised ways to complement and strengthen those organizations' various functions within the center's overall framework, it will be appropriately evaluated in the screening process?

#### 2-4. Securing research funding

- Based on the host institution's past record, can the center be expected to secure competitive grants and other research funding in addition to the funding provided under this program? (It is desirable that the host institution possess a past record of having acquired external research funding in an amount equivalent to at least 80% of the other (non-WPI) competitive grants it is expected to secure for the project.)
- Can additional resources that match or exceed the amount of this WPI project grant be secured to support the center's operations and its research activities? (They may, for example, be competitive funding obtained by the center's researchers, in-kind contributions (e.g. bearing part of personnel costs, providing/sharing research space) or other forms of assistance by the host institutions, or external donations.)

#### 3. Interdisciplinary research

- Targeted should be, in principle, fused fields that can be expected to create a new scientific domain and/or fields of future importance.
- Can it be expected that the research targets are fused fields and create a new scientific domain and/or fields of future importance?
- The research domain should be both challenging and internationally appealing, one in which Japan's expertise can excel and that can contribute to solving global S&T issues.
- The target research domain should be one that can be expected to continuously maintain a top world-level standing by perpetually and strategically spawning important new scientific fields.
- Is the reasonable role of mathematics and information science indicated in efforts to fuse fields and create new ones?
- If for reasons of advancing its research or feeding its outcomes back into society a center chooses to include, within a necessary and reasonable limit, humanities and social science fields in its research domain and to create linkage with such fields, it will be evaluated appropriately in the screening

process.

- Is there an innovative and concrete strategy put in place to accelerate the advancement of fusion research and create new fields?

#### 4. International research environment

##### 4-1. System for advancing international research

- As called for in section 5. (4) a. of the Application Guidelines, the center's plan should provide for at least 20% of its principal investigators being from overseas; and in accordance with section 5.(4) c., 30% of its researchers being from overseas, including those on short stays, at all times. Does the center have an effective plan for ultimately meeting these staffing targets according to a time schedule?
- To what degree will researcher (including postdoctoral) positions be filled through open international solicitations? (In principle, international solicitations are expected to be used.)

##### 4-2. Establishment of international research environment

- Have steps been taken to provide staff functions, including the carrying out of various administrative procedures, and are they sufficient to enable researchers to do their research in an unencumbered, comfortable environment?
- Is startup research funding provided and other measures taken to ensure that the top-caliber researchers invited to the center do not upon arrival lose momentum in vigorously pursuing their work out of concern over the need to apply immediately for competitive grants?
- Is English established as the primary language for work-related communication? Are administrative personnel appointed who can facilitate the use of English in the work process?
- Are international research conferences or symposiums planned to be held at least once a year to bring the world's leading researchers together at the center?

#### 5. System reform

##### 5-1. Project management

- Has a center director been selected who can devote full time to recruiting highly qualified researchers and personnel, reforming systems, and carrying out other operational functions?
- Is the director a person suitable to be the center's "face" over a period of 10 years, who will give the center an attractive persona within the international community? Is s/he capable of leading the center's research and performing the key functions of the director position such as attracting and inviting outstanding researchers to the center?

- Does the director have a clear and comprehensive vision of constructing the center?
- Has an administrative director been selected and an administrative system put in place that can offer strong administrative and managerial support to the director, while consistently maintaining an environment in which researchers can work in an unencumbered, comfortable manner?
- Does the center's operational management system have a top-down decision-making mechanism centered around the director so as to be able to make flexible and swift decisions?
- With the exception of the hiring and firing of the director, does the center's system enable the director to make all operational decisions?
- Has a rigorous system been put in place for evaluating the research? Has a system for merit-based compensation (e.g., a merit-based annual salary system) been introduced?

#### 5-2. Research environment

- Are the equipment and facilities, including laboratory space, appropriate for a top world-level research center? (To give the center an appealing persona, a core environment should be established within it where participating researchers physically gather together to carry out research activities.)
- Are other measures taken to ensure that the researchers can comfortably devote themselves to their research within an international and competitive environment at the center? Are necessary measures taken to include researcher participation in graduate student education?

#### 5-3. Establishing a center together with organizational restructuring

- In the center project proposal, are areas of organizational reform to be synchronized with the new center's establishment concretely articulated? Can the center's autonomous operation of the center be expected after WPI grant ends, and can the host institution's organizational reform be expected over the mid-to-long term?

### (2) Evaluating the appropriations plan

- Is the budget and its contents appropriate and does it provide an amount of financing required to implement and achieve the center's plan?

### (3) Evaluating the host institution's commitment

- Does the host institution have a clearly articulated policy for restructuring its organization system within the mid- to long-term? Is it adequate to sustain and further develop the center after WPI funding ends? Further, can it be expected

that the plan will be fully concrete and clearly established by the time of the center's interim evaluation?

- As required in section 6. of the Application Guidelines, will the host institution be able to support the center's need to secure resources that match or exceed the project grant for carrying out the center's operation and research activities? (Host institutions are expected to assist the centers in securing resources in the same amount or larger than the WPI grant.)
- Will a system be established that allows the center director to make substantive personnel and budget decisions necessary to implementing the center project?
- Will the host institution support the mobilization of researchers from its faculties to the center?
- Will the host institution be flexible in applying and/or modifying its internal systems so as to facilitate the effective implementation of the center's new management methods (e.g., English-language environment, merit-based pay, top-down decision making, linkage to graduate school education) unfettered by conventional modes of operation? Is it committed to being cooperative in this regard?
- Is the host institution prepared to accommodate the center's infrastructural requirements (for facilities, including laboratory space, equipment, land, etc.)?
- Will the host institution work to sustain the center as a world premier international research center after the WPI grant period ends?
- Is the host institution ready to provide other concrete support needed to make the center a top world-level research hub?
- Is the host institution committed to self-evaluating the results of the system reforms achieved by the center and distributing them to other departments?
- If a host institution has already established a center under the WPI program, is it providing sufficient support to sustain and further develop that center as a top world-level institute? Is the host institution able to support the continuation of the existing center and fully support the new center at the same time?
- If the host institution has already established a WPI center, has it taken the initiative to spread the center's good system reform results to other departments throughout the institution?

#### (4) Overall appraisal

- Are the criteria and methods for evaluating the center's global standing in the subject fields sufficiently objective, reliable and persuasive?
- Will the implementation of the plan enable the realization of a truly top world-level research center, one capable of attracting top-caliber researchers from around the world?
- Will the proposed organization be able to sustain the center as a top world-level research center after project funding has ended?

- Will the center become a trailblazer in providing a model for developing a top world-level research center that can be emulated by other departments of the host institution or other institutions?

#### 4. Others

##### (1) Disclosure

- So as to ensure the sound implementation of application reviews, neither the review process nor the review materials are to be publicly disclosed.
- The review results are to be released by posting them on homepages and by other means after the awardees are selected.
- During Committee meetings, the members shall voice their views on how center proposals may be improved. Those recommendations will be forwarded to the applicants.
- Regarding applications that lack the proper qualifications, the applicants shall be informed of why their applications were not given a document review.
- Regarding applications that were reviewed but not selected, the reasons for the non-selection shall be provided to the applicants without specifying the review results of individual committee members.

##### (2) Conflicts of interest

If any of the below-listed elements are applicable to a committee member, s/he shall immediately inform the secretariat of such and withdraw from participating in the review of the subject application. That is, s/he shall not participate in either the document or panel review of the subject application; and if s/he is a member of the Committee shall leave the room and not participate in either the discussion or decision regarding that application.

- a) If s/he is a full- or part-time employee of the host institution (or is scheduled to become one), or if s/he has been employed by the host institution within the past three years
- b) If s/he is a participant in the center project.
- c) If s/he has a relationship with the center's chief entire-project officer, prospective center director, or chief center-project officer in the following two cases:
  - (1) Is a relative or has a similarly close personal relationship with them
  - (2) Has a close mentor relationship with them
- d) If s/he is scheduled to be a member of an evaluation committee established within the subject center
- e) If s/he is closely engaged in joint research with a person who will participate in the subject center
- f) If s/he would stand to gain something from the selection or non-selection of the subject project, or is in a position of opposition or competition vis-à-vis the project

g) If s/he has any other reason that would make it difficult to conduct a neutral and fair evaluation.

(3) Confidentiality

- Committee members and document reviewers are prohibited from disclosing any personal information or review-related information learned during their participation in the review process.
- Committee members and document reviewers are required to keep review-related information and data (including applications and documents) separate from other materials and to maintain good stewardship over them.

(Attachment)

## Implementation of Document Reviews

### 1. Document Reviewer Selection Criteria

#### (1) Selection criteria

The document reviewers must have a good understanding of the factors involved in establishing WPI center. They are to be selected based on either one of the following criteria.

[1] From the viewpoint of system reforms (System reviewer):

- Have abundant experience and expertise in the operation and research activities of universities, independent administrative institutions (IAIs) or other related organizations.
- Possess experience in research management

[2] From the viewpoint of research content (Science reviewer):

- Have engaged as a specialist in research in related fields; have amassed a record of research results; and possess expert knowledge and insights
- Possess a good and wide knowledge of related fields

Reviewers are to be selected from a variety of perspectives to ensure impartiality in the screening process. In this regard, the following points should be borne in mind.

- a) A balance should be made among reviewers from universities, IAIs, private corporations and other organizations.
- b) A balance should be attempted in reviewer gender, home region, and age.
- c) The appointment of foreign reviewers should be considered so as to perform evaluations reflective of what is appealing from an overseas perspective.

#### (2) Conflicts of interest

[1] Document reviewers are not allowed to be a chief entire-project officer or chief center-project officer of a proposed center project.

[2] If any of the below-listed elements are applicable to a document reviewer, s/he shall immediately inform the secretariat of such and withdraw from the review of the subject application.

- a) If s/he is a full- or part-time employee of the host institution (or is scheduled to become one), or if s/he has been employed by the host institution within the past three years
- b) If s/he is a participant in the center project
- c) If s/he has a relationship with the center's chief entire-project officer, prospective center director, or chief center-project officer in the following two cases:
  - (1) Is a relative or has a similarly close personal relationship with them

- (2) Has a close mentor relationship with them
- d) If s/he has, as a person affiliated with the host institution, contributed to the conceptualization process of the subject center project
- e) If s/he is scheduled to be a member of an evaluation committee established within the subject center
- f) If s/he is closely engaged in joint research with a person who will participate in the subject center or has been so engaged within the last three years (e.g., carrying out a joint research project, co-authoring a research paper, or closely affiliated as a member of the same research group.)
- g) If s/he would stand to gain something from the selection or non-selection of the subject project, or is in a position of opposition or competition vis-à-vis the project
- h) If s/he has any other reason that would make it difficult to conduct a neutral and fair evaluation.

## 2. Document Reviewer Selection Process

### (1) Reviewers selected from the viewpoint of system reforms

(Selection process should finish before application deadline.)

From among the persons meeting the criteria stipulated in section 1. (1) above, the secretariat shall select six Japanese reviewers and six alternates as candidates and prepare a list of them.

It shall forward the list to each member of the second screening committee for comments, based upon which the committee chair shall finalize the list of candidates. Then, each candidate will be sent an invitation to participate as a document reviewer. Those who give informal consent will be chosen as the reviewers. (If candidates should decline the invitation, alternates shall be invited in order listed.) The finalized list of reviewers shall be sent to all the committee members.

### (2) Reviewers selected from the viewpoint of research content

Based on information provided by applicants in their first screening application form (e.g., fields, key words, project summary), the secretariat shall prepare a list of candidates, including overseas candidates, who meet the criteria stipulated in the section 1. (1) above to be invited as document reviewers. The secretariat shall, then, obtain the informal consent of each candidate and forward a list of them to the second screening committee chair for confirmation.

In both the above cases, an explanation of the program is to be provided to the selected reviewers to ensure that they fully understand the purpose of the program. Foreign reviewers should have a good command of English. Japanese researchers may be selected if they are currently engaged in research activities at an overseas university or research institute and possess abundant experience in positions at

overseas universities or other related organizations.

### 3. Document Review Implementation

The reviewers selected based on the criteria stipulated in section 2 above shall be sent a set of second careening application documents, and shall conduct document reviews based on them. If any of the reviewers report a conflict of interest, another reviewer will not be appointed to take his/her place.

As a rule, no limit is set on how many applications one reviewer may handle. In the case of the system reviewers, to ensure uniformity the same six Japanese reviewers should review all the applications, in principle.