

FY2023

# Instructions for Preparing a Proposal of Strategic Basic Research Programs : CREST 【Carbon-Blue X】

As for “Overview”, and “Research Supervisor’s Policy on Call for Application, Selection, and Management” and “Strategic Objective” of the research area to be applied for, please see the following URL and select the research area.: <https://www.jst.go.jp/kisoken/boshuu/teian/en/top/ryoiki.html>.

For a research director (PI) and lead joint researcher(s) (Co-PIs), researcher IDs for e-Rad must be required in order to submit a proposal. Ensure that you have deleted “Proposal Preparation Checklist” before submitting proposal documents.

- (note 1) Those applicants should not use the proposal format speculated in this instruction, who make a Japan-France joint proposal in cooperation with Agence Nationale de la Recherche (ANR) in three areas of the CREST research: "Creation of System Software for Society 5.0 by Integrating Fundamental Theories and System Platform Technologies", supervised by Prof. Yasuo Okabe, "Exploring Innovative Materials in Unknown Search Space", supervised by Prof. Hiroshi Kitagawa, and "Research on Multi-sensing Biosystems and Development of Adaptive Technologies", supervised by Prof. Atsushi Iriki. The applicants are requested to submit the summary of the joint research to JST via e-Rad, as well as the joint research proposal written in English that has been submitted to ANR, France,
- (note 2) If there is a defect in a proposal document uploaded to e-Rad that makes it difficult to review the proposal, the proposal will not be accepted. Please be attentive to the preparation of documents. “Defects that make a review difficult” refers to missing documents (especially, form 1: cover of proposal documents), garbled characters that make a review difficult, and the absence of important entry items in a proposal. JST shall not be held responsible for any defects in proposal documents that appear before a deadline for proposal applications, whether or not the proposal is accepted. Therefore, please be aware that JST makes neither an amendment of the proposal upon prior confirmation by the applicant, nor a request for the applicant to correct proposal documents before a deadline of submission. JST also prohibits the withdrawal of proposals on e-Rad after the deadline and will not accept any proposal that was withdrawn, whatever the reason may be.
- (note 3) For the items that are included in both e-Rad and a proposal document, if the descriptions are not same, the information in the proposal document takes precedence.

## Research Proposal (Form) Completion Requirements

A list of documentation to submit is provided below. Prepare research proposals by following the research proposal completion requirements on the next page and the following pages.

Please use the Research Proposal Form of FY2023. Some research areas require that the original proposal forms be used, or other conditions (research term or research budget) may be different. Please ensure that you download and use the proposal form of the research area to which you are planning to apply.

When you prepare a proposal, you are requested to refer to the “Research Supervisor’s Policy on Call for Application, Selection, and Management” of the research area.

Form No.	Document
Form 1	Cover of research proposal documents (within one page)
Form 2	Research Proposal Overview (within one page)
Form 3-1	Project Description (within six pages)
Form 3-2	Project Organization and Research schedule (within two pages)
Form 4-1	Research Project Organization 1 (within two pages)
Form 4-2	Research Project Organization 2 (within two pages for each group)
Form 5	Research Budget
Form 6	List of Achievements / Ex-Post Evaluation Results (PI)
Form 7	List of Achievements (Lead Joint Researcher(s) (Co-PIs))
Form 8	List of Patents (PI & Lead Joint Researcher (Co-PIs)) (around one page)
Form 9	Information on Other Supports
Form 10	Other Special Remarks (within three pages)

\* File sizes should not exceed 3MB in total.

\* Check application guideline “5.1.1 Conflicts of Interest Involving Research Project Applicants and the Research Supervisor” and “Proposal Preparation Checklist (whether there is conflict of interest between the applicant and the research supervisor)” before preparing proposal documents. If there should be any item for which it is difficult to make a clear judgement, download the form for questions regarding conflict of interest from the website for research proposals, fill in required items, attach the file, and send it to an addressee for questions.

- **To download the form, please select the research area which you are going to apply and refer “How to apply” tag in the following URL:**  
**<https://www.jst.go.jp/kisoken/boshuu/teian/en/top/ryoiki.html>**
- **Addressee: [rp-info@jst.go.jp](mailto:rp-info@jst.go.jp)**
- **Title: “Conflict of Interest” “CREST name of research supervisor of the research area to which the application is submitted” Affiliation and name of researcher submitting the proposal**

\*See also the user manual of e-Rad: [https://www.e-rad.go.jp/en/manual/for\\_researcher.html](https://www.e-rad.go.jp/en/manual/for_researcher.html)

\*Researchers must understand Application Guideline “Chapter 8: Key Points in Submitting Proposals” and “Chapter 9: Limitations on the Multiple Application within the Strategic Basic Research Programs” before making an application.

# FY 2023 Application CREST 【Carbon-Blue X】 Research Proposal

Fill in form 1 within one page of A4 paper (observe strictly).

You may delete notes in italics and blue characters in this and other forms. When information entered in e-Rad is different from that in research proposal documents, the latter will be considered correct.

Research Area	Exploring the potential of ocean blue carbon through investigation of ocean and carbon cycling interactions
Title of proposed research project	<i>When the title is in English, describe the title also in Japanese (about 20 characters) along with the English title.</i>
Name of Research Director (PI)	
Affiliated Institution, Section, Title	<i>Describe the affiliation and title accurately without any omission. (i.e., describe Graduate school, Department, Majors, XX laboratory, and project/tenure/associate/assistant professor)..</i>
Academic Background	<p>(Entry example)</p> <p>Completed Ph.D. in Graduate School of xxxx University in 20XX</p> <p>(Instructor: Professor xxxx) 【Instructor Name Required】</p> <p>Doctoral Acquisition (xxxx)</p>
Professional Appointments of Research Director (PI) (Main work history and research contents)	<p>(Entry Example: It is essential to include the director's name of the belonged laboratory.)</p> <p>Assistant Professor, Faculty of xxxx of xxxx University in 20XX to 20XX</p> <p>Research about xxxx in the professor xxxx's laboratory</p> <p>Researcher of xxxx Research Institute from 20XX to 20XX</p> <p>Engaged in xxxx research in the xxxx laboratory of professor xxxx</p>
Information of Research Director (PI)	<p>URL:</p> <p>Please indicate URL of researchmap if not, please put the websites where the information of the applicant is available.</p>
Research Period	[Oct. 2023] – [mm. yy] (xx years)
Total Research Budget	<p>Total Budget:            thousand yen</p> <p>(Do not include decimal point. Pay attention to the unit. (check if the expenses exceed the upper limit set for research expenses stipulated in the “Research Supervisor’s Policy on Call for Application, Selection, and Management”. Do not include indirect cost.))</p>

## Research Proposal Overview

### Outline of Research Project

- In Form 2, Provide an overall description of the research proposal in one A4-size sheet (no exceptions). Use 10.5 point or larger font size (If these instructions are not followed, the research proposal might not be accepted). Unlike form 3-1 (project description), it is not allowed to cite numbers of papers that are shown in the list of achievements (form 6 and form 7).

- Form 2 is an important material for the document screening to be evaluated from the perspectives below:

1. Is it aligned with the goals of the Research Area? (Can the proposal be expected to contribute to fulfilling the purpose of the Research Area? Mainly, does the proposal correspond to items a. and b. in “(1) Selection Standards (Preliminary Evaluation Standards)” in Section 5.1.3, “Selection Perspective” of Application Guideline?)  
    “a-The research proposal contributes to the achievement of a Strategic Objective”  
    “b-The research proposal is Consistent with the Research Area purpose”
2. Is it aligned with the goals of the CREST Program? (Mainly, does the proposal correspond to the goal noted in c. in “(1) Selection Standards (Preliminary Evaluation Standards)” in Section 5.1.3, “Selection Perspective” of Application Guideline for “Basic research that is unique, highly appreciated internationally, and expected to produce outstanding results that contribute greatly to scientific and technological innovation.”)

Therefore, in this form, provide a brief description that focuses on the details corresponding to Item 1, “Background and Proposed Objectives,” of CREST Form 3-1 (Project Description), and provide the minimum explanation (corresponding to Items 2 to 5 of Form 3-1) required to understand your description above.

(The scientific/technical evaluation of the validity and feasibility of the Project Description will be considered mainly with CREST Form 3-1)

- A preliminary selection entailing the document screening for each Research Area may be held from the perspectives of 1) and 2) above.
- Insert figures and tables (in color, permitted) appropriately to be undertaken clearly.

## Project Description

- *Clearly state the work to be undertaken. Figures and tables (in color, permitted) may be included if necessary.*
- *For Form 3-1, do not exceed six A4-size sheets (no exceptions). Use 10.5 point or larger font size (If these instructions are not followed, the research proposal might not be accepted).*
- *In this form of project description, make effective references to the descriptions of achievements listed in Forms 6 (PI) and 7 (Co-PI) to clarify the relationship between the achievement and the research being proposed by the research project applicant. In making the references, the numbers listed in the forms can be quoted in this form.*

### 1. Background and Proposed Objective

- a. Ocean and global environment and the issues predicted in the near future
  - Describe the proposed challenges and the reasons why they are chosen for the situation.
- b. Innovation and future prospects of the proposed project
  - Describe the potential of the innovation: what will the project devise? What kind of innovations will be realized?

### 2. Target of proposed research project (Summary)

#### (1) Target to be achieved in the middle of the research period (within 60 words)

*Describe briefly (within 60 words) the research target in the middle of the proposed research period (for 5.5 years of entire research period, at the time of 3 years later from the start of the project).*

#### (2) Target to be achieved at the end of the research period (within 60 words)

*Describe briefly (within 60 words) the research target at the end of the proposed research project.*

### 3. Research Plans and Approach

- Describe concrete plan in detail the following a. to d.*
  - *Describe how to pursue the proposed research including the roles of each research group (PI's group, and each Co-PI's group).*
  - Specify the strategy to acquire and manage intellectual property rights (such as application, authorization, licensing). Describe relevant intellectual property rights that the applicants own.*
- a. Overall plan to reach the objectives and putting the proposed solutions

b. Current status of the proposed project

c. The project's research/development processes

- Describe the requirements to accomplish the proposed projects, and show how the best approach is chosen to realize "a."

c-1. Plans for implementation from the start to the midpoint of the project

c-2. Plans for implementation from the midpoint to the end of the project

d. The assessment of risk and obstacles: In order to achieve the goal, what measures will be carried out to overcome the risk and obstacles.

- Foresee issues and obstacles (external environment, internal affairs) during the execution of the proposed project. Appropriate measures to be taken should be described here.

#### **4. The proposed Team Formation: Research Infrastructure and Readiness**

*Describe in detail the proposed Team Formation regarding following a. and b.(b-1, b-2 and b-3) to build on the research proposal including the following information;*

- *Relevant projects conducted in the past and achievements of the PI and those of Co-PIs and other research participants*
- *Other preliminary knowledge, data, etc.*

*<Excerpt from the item "d" in "5.1.3 (1) Selection Perspective">*

- *The research project applicant has produced research results for accomplishing the research objectives.*
- *Promising preliminary results have been obtained for pursuing the research project.*
- *The research proposals is clearly specifying (i) the background to the research project (its necessity and importance), (ii) the research record of the research project applicant; and (iii) the research initiative and plan., separately.*
- *An optimal research organization is proposed. The research project applicant will exercise strong leadership and bear responsibility for the entire research team, and, if there will be Co-PIs, they are essential for to the pursuit of pursuing the research project, and a collaboration framework sufficient for enabling significant contributions toward the achievement of research objectives*

*is provided*

a. This research area has two major characteristics: research collaboration and multidisciplinary approach. Describe how the proposal will benefit through the characteristics of this research area.

b. Value of the team formation to achieving the proposed objective

b-1. Readiness

b-2. Relevant competencies, facilities and other physical resources available to the project

b-3. Credibility of approach to formation of the domestic and international research cooperation, including plan for exchange of staff

## **5. Originality and novelty of the proposed research and comparison to current state of similar studies**

*-Taking into account the state and trends of research in relevant fields, present originality and novelty of the proposed research project. Describe the advantages of the proposed research over others, specifying the competitive researches overseas.*



## Project Organization and Research Schedule

**For Form 3-2, describe within two or less A4-size sheets (no exceptions).** If this instruction is not followed, the research proposal might not be accepted.

### 1. Project Organization

Group Name	Name of PI / Co-PI	Affiliation and Title	Research Title (around 12 words)
* * Group ( * * should be filled with the family name of PI)	Name of the PI	Affiliation and Title of the PI	Title of the proposed project as specified in the form 1.
+ + Group (++ should be filled with the family name of Co-PI(1))	Name of the Co-PI (1)	Affiliation and Title of the Co-PI (1)	Name of the research Item of this group in charge *This is also specified in form 4-2.
+ + + Group (+++ should be filled with the family name of Co-PI(2))	Name of the Co-PI (2)	Affiliation and Title of the Co-PI (2)	Name of the research Item of this group in charge *This is also specified in form 4-2.

#### Notes:

- JST, in principle, will enter into a contract research agreement with the organization to which the PI belongs and the ones to which a Co-PIs affiliate for each research theme.
- In CREST research operation, PI and Co-PIs can receive research budget. Other research participants can NOT receive research budget. Collaborative researchers who need to execute research budget should be added to the research team as Co-PI.

## 2. Research Schedule

-See the example below and enter the schedule of the proposed research project. (The research period described in the following Example is 5.5 year.)

-The name of “PI’s Group”, “Co-PI’s group” should be same as those specified in the previous item of this form respectively.

-If proposed subject consists of several research subthemes, state clearly schedules of each subtheme and the organizations to pursue the subtheme.

- Length, position and thickness of arrows can be changed.

### Example

Research Subjects	2023 Fiscal year (6 months)	2024 Fiscal Year	2025 Fiscal Year	2026 Fiscal Year	2027 Fiscal Year	2028 Fiscal Year (12months)
<b>1. XX related Gene Expression Analysis</b>						
• Identification of XX related genes (PI’s Group)						
• XX Gene Expression Analysis (Co-PI’s Group 1,2)						
<b>2. Development and verification of model animal</b>						
• Development of XX model animal (PI’s Group)						
• Verification of XX model animal (Co-PI’s Group 2)						
<b>3. Imaging Analysis</b>						
• XX Data Collection (PI’s Group Co-PI’s Group 1)						
• Development of XX software (Co-PI’s Group 2)						
• Data Analysis (PI’s Group)						
<b>4. Development of XX Diagnostic Method</b>						
• Elucidation of XX Correlation (PI’s Group)						
• Development of diagnostic method and verification (Co-PI’s Group 1)						

## Research Project Organization 1

(Research Members of the PI's Group)

For Form4-1, describe within two or less A4-size sheets (no exceptions). (If this instruction is not followed, the research proposal might not be accepted.)

### PI's Group *example*

PI	Affiliation <sup>1)</sup> , Department	Title
○○ ○○	Department of ***, Graduate School of ***, *** University	Professor
Research Participants <sup>2,3)</sup>	Affiliation <sup>4)</sup> , Department (Omit if the same as above)	Title
○○ ○○		Professor
○○ ○○		Associate Professor
○○ ○○		Lecturer
×× ××	*** Laboratory, *** Co., Ltd.	Principal Researcher

- 1) If the proposed research project is selected, but the research organization to pursue the project will be different from the current affiliated organization of PI, provide the name of the institution at which the research will be conducted. Also, provide us with information on the details in the form 10.
- 2) Provide sufficient consideration to the roles played by the members of the research group.
- 3) Add Additional lines for research participants as necessary. If the research staff has not been finalized at the time of the proposal, a note like "X persons for research staff" will suffice.
- 4) If the same research theme needs to be pursued at multiple research organizations, it is possible to add members from the other organizations as research participants. This is only approved on the condition that the affiliated organization of the PI that enters into a contract with JST can manage the research budget. If it is necessary to enter into a contract with JST individually to manage the research budget, the researcher is to be listed in another Co-PI's group (See also the Q&A of "2.2.6(2) Requirements for Organizing a Research Project" of the application guidelines.).

### ○ Research Subjects and Overview

#### • Title of Research Theme :

Enter "the name of the proposed project" in form 1 and research theme in form 3-2 "1. Project Organization"

#### • Research Subjects in Charge :

Enter "the research subtheme" specified in the form 3-2 "2. Research Schedule", of which the PI's group is in charge.

#### • Overview of the research :

Describe briefly an overview of the research subjects that the PI's Group will be in charge of.

- **Role in the entire research project :**

Describe the role which the PI's group plays in realizing the proposed research project.

## Research Project Organization 2

(Research Members of the Co-PI's Group)

- If a Co-PI's group (Co-PI's institution) other than the PI is required, list them in Form 4-2 (this form) per joint research institution. **This form 4-2 should be described within two or less A4-size sheets (no exceptions) for each Co-PI's group.** (If this instruction is not followed, the research proposal might not be accepted).
- The research expenditures of overseas Co-PI's groups are funded only when the participation of the groups is essential to realize the research concept. Elaborate the necessity in detail in particular. Further, such funds are applicable only when the implementation of the research is difficult unless the overseas Co-PI's groups are involved; therefore, describe the grounds. Even if the necessity of such Co-PI's groups is recognized, the research expenditures of the overseas Co-PI's groups may not be funded if the terms and conditions of the contract are not acceptable. In this case, describe a proposal for cooperation (the second-best option).

### **Co-PI's Group (1) example**

Co-PI	Affiliation <sup>1)</sup> , Department	Title
○○ ○○	Department of **, ***University	Professor
Research Participants <sup>2,3)</sup>	Affiliation <sup>4)</sup> , Department (Omit if the same as above)	Title
○○ ○○		Principal Researcher
○○ ○○		Researcher
2 researchers to be hired		Research fellow
×× ××	*** Laboratory, *** Co., Ltd.	Principal Researcher

- 1) If the proposed research project is selected, but the research organization to pursue the project will be different from the current affiliated institution of the Co-PI, provide the name of the organization at which the research will be conducted. Also, provide us with information on the details in the form 10.
- 2) Provide sufficient consideration to the roles played by the members of the research group.
- 3) Add Additional lines for research participants if necessary. If the research staff has not been finalized at the time of the proposal, a note like "X persons for research staff" will suffice.
- 4) If the same research theme needs to be pursued at multiple research organizations, it is possible to add the members from other organizations as research participants. This is only approved on the condition that the affiliated organization of the Co-PI that enters into a contract with JST can manage the research budget. If it is necessary to enter into a contract with JST individually to manage the research budget, the researcher is to be listed in another Co-PI's group (See also the Q&A of "2.2.6(2) Requirements for Organizing a Research Project" of the application guidelines.).

- **Research Subjects and Overview**

- **Title of Research Theme of the Co-PI's group :**

Enter "the name of the research theme" of this group specified in form 3-2 "1. Project Organization"

- **Research Subjects in Charge :**

Enter "the research subjects" specified in the form 3-2 "2. Research Schedule", of which this Co-PI's group is in charge.

- **Overview of the research :**

Describe briefly an overview of the research subjects that this Co-PI's group will be in charge of.

- **Role in the entire research project and necessity :**

Describe the role which this Co-PI's group plays in realizing the proposed research project.

Also, specify the measures taken to the item "d" in "5.1.3 Selection Perspective (1)" from application guideline

<Excerpt from the item "d" in "5.1.3 Selection Perspective (1)">

- The research project applicant has produced research results for accomplishing the research objectives.
- An optimal research organization is proposed. The research project applicant will exercise strong leadership and bear responsibility for the entire research team, and, if there will be Co-PIs, they are essential for to the pursuit of pursuing the research project, and a collaboration framework sufficient for enabling significant contributions toward the achievement of research objectives is provided.

- **Reason of why this group is necessary for this project (applicable only to overseas Co-PI's groups):**

- Necessity of the joint research group for achieving the goal of the project
- Availability of specific facility, equipment, environment, etc.

Describe briefly the necessity of the researcher/the research institute involved for achieving the goal of the proposed research project and the grounds for the difficulty in the implementation of the research unless a certain Co-PI's Group is involved in terms of the specific research facility, equipment, environment, etc.

- **An alternative proposal for cooperation with the applicable group, in case a contract cannot not be concluded (applicable only to overseas Co-PI's groups):**

Describe a proposal (the second-best option) for cooperation in the case in which JST does not finance the research.

- **The state of enforcement of the security trade control (applicable only when an overseas Co-PI's Group is involved):**

Describe the state of enforcement of the security trade control concerning the research group of PI and the domestic Co-PI's Group.

## Research Budget

- Prepare the budget plan and sort it by items and by groups for each year.
- A more detailed budget plan will be requested when the proposal proceeds to the interview screening.
- The budget plan, after adopted, may be revised during the research period according to the state of the project, Research Area policy, and project evaluation, etc.
- Organize an optimal research team with necessary and sufficient number of groups. Appropriateness of the budget allocations to the Co-PI's Groups, and cost performance will be an important consideration as a part of the selection process.

### 1. Research Budget Plan in Item (Entire Team) *example*

	1 <sup>st</sup> Year 2023.10～ 2024.3	2 <sup>nd</sup> Year 2024.4～ 2025.3	3 <sup>rd</sup> Year 2025.4～ 2026.3	4 <sup>th</sup> Year 2026.4～ 2027.3	5 <sup>th</sup> Year 2027.4～ 2028.3	Final Year 2028.4～ 2029.3	Total (Thousand yen)
<b>Equipment</b>	20,000	40,000	0	0	0	0	60,000
<b>Materials/ Consumables</b>	20,000	40,000	30,000	30,000	20,000	20,000	160,000
<b>Travel</b>	1,000	2,000	2,000	2,000	2,000	1,000	10,000
<b>Personnel and Services (Number of Researchers)</b>	6,000 (2)	12,000 (2)	12,000 (2)	12,000 (2)	12,000 (2)	6,000 (1)	60,000
<b>Other</b>	10,000	0	0	0	0	0	10,000
<b>Total (Thousand yen)</b>	57,000	94,000	44,000	44,000	34,000	27,000	300,000

Budgeted costs are itemized as follows:

- Equipment: Cost for tangible properties with relatively expensive
- Materials / Consumables: Cost for purchasing materials and consumables
- Travel: Travel expenses of the PI or participants.
- Personnel and Services: Personnel expenses and compensation for postdoctoral researchers, technicians, research assistants (RA), etc.
- (Numbers of researchers): The number of researchers, technicians, and research assistants who are newly employed for the proposed research project
- Other: Costs other than the above (e.g., printing, equipment lease, freight costs, etc.)

### Remarks on the research budget

Describe any remarks on applicable items if necessary, when a large amount of labor cost, travel cost, or the like is required.

## 2. Research Budget plan by group

Propose a most suitable research team that is necessary and adequate for bringing the research idea of the research representative into reality. When a Co-PI's group is organized, the group must be necessary and essential for bringing a research idea into reality and be able to make great contributions to achieving the research objectives.

	1 <sup>st</sup> Year 2023.10～ 2024.3	2 <sup>nd</sup> Year 2024.4～ 2025.3	3 <sup>rd</sup> Year 2025.4～ 2026.3	4 <sup>th</sup> Year 2026.4～ 2027.3	5 <sup>th</sup> Year 2027.4～ 2028.3	Final Year 2028.4～ 2029.3	Total (Thousand yen)
PI's Group ○○○○ (**University)	20,000	40,000	25,000	25,000	20,000	15,000	145,000
Co-PI's Group 1 ○○○○ (**University)	20,000	30,000	10,000	10,000	5,000	5,000	80,000
Co-PI's Group 2 ○○○○ (**University)	17,000	24,000	9,000	9,000	9,000	7,000	75,000
<b>Total</b> (Thousand yen)	57,000	94,000	44,000	44,000	34,000	27,000	300,000

### List of major equipment costing 10 million yen or more (item, estimated cost)

*Example*

\*\*\* Group

XXXXXX 15,000 Thousand Yen

XXXXXX 10,000 Thousand Yen

\*\*\* Group

XXXXXX 10,000 Thousand Yen



## **List of Achievements/Ex-Post Evaluation Results**

**(PI : (Example)Taro Gijyutsu)**

**【Author notation in English papers by the PI : (example) Taro Gijyutsu】**

In the document screening, evaluators (research supervisor, research area advisor) sometimes search through publication databases to check achievements in detail. This requires the entry of the PI's name for publication [author notation in English papers by the PI]. When entering author(s) in 1. List of papers mentioned later, abbreviation to, for example, T. Gijyutsu is acceptable.

### **1. Principal papers, books, and other publications related to this research proposal**

**–within 20 achievements**

- List a maximum of 20 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.
- Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).
- Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.

[items to be included]

Author (Enter all authors and underline the name of PI), title of published paper, journal, volume, page, publication year

### **2. Invited lectures –within 10 achievements**

- List a maximum of 10 invited lectures by PI.
- Assign a serial number in front of a line.
- If there is no applicable item, write “N/A”.

### **3. Major awards –within 10 achievements**

- List a maximum of 10 major awards of PI.
- If there is no applicable item, write “N/A”.

**4. Ex-Post evaluation of research projects that the research applicant represented in other systems of competitive research funds**

- Enter in the table below a list of projects that the PI represented (restricted to those disclosed in 2015 and thereafter) and for which Ex-post evaluation is disclosed.
- Delete the table and enter “N/A” if no relevant project exists.

Number	Research Program	Research Project (Fiscal Year Implemented)	URL of website with Ex-post evaluation result <small>*if the website contains many projects that are not those of yourself, write page numbers of your own projects to facilitate checking by evaluators.</small>
1			
2			

## List of Achievements (Co-PI(s))

### ○ Co-PI's Group 1

**Co-PI : (example) Taro Kagaku (○○University)**

**【Author notation in English papers : (example) *Taro Kagaku*】**

In the document screening, evaluators (research supervisor, research area advisor) sometimes search through publication databases to check achievements in detail. This requires the entry of the PI's name for publication [author notation in English papers]. When entering author(s) in 1. list of papers mentioned later, abbreviation to, for example, T. Kagaku is acceptable.

### **Principal papers, books, and other publications related to this research proposal (Co-PI 1) \*within 10 achievements**

- For each Co-PI, list a maximum of 10 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.
- Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).
- Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.

[items to be included]

Author (Enter all authors and underline the name of Co-PI), title of published paper, journal, volume, page, publication year

### ○ Co-PI's group 2

**Co-PI : (example) Hanako Kagaku (○○ University)**

**【Author notation in English papers : (example) *Hanako Kagaku*】**

In the document screening, evaluators (research supervisor, research area advisor) sometimes search through publication databases to check achievements in detail. This requires the entry of the PI's name for publication [author notation in English papers]. When entering author(s) in 1. list of papers mentioned later, abbreviation to, for example, H. Kagaku is acceptable.

### **Principal papers, books, and other publications related to this research proposal (Co-PI 2) \*within 10 achievements**

- For each Co-PI, list a maximum of 10 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.
- Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).
- Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.

[items to be included]

Author (Enter all authors and underline the name of Co-PI), title of published paper, journal, volume, page, publication year

## **List of Patents (PI and Co-PI(s))**

### **Major Patents**

*List important patent applications of recent years that are related to this proposal. Do not exceed one page.*

*[Items to be entered]*

*Patent application number, inventor, title of invention, applicant, and date of application*

### **1. PI (Name (Affiliation))**

### **2. Co-PI(s)**

#### **2.1 Co-PI's Group 1 Co-PI 1: (Name (Affiliation))**

#### **2.2 Co-PI's Group 2 Co-PI 2: (Name (Affiliation))**

## Information on Other Supports

### [Notes]

- When PI or Co-PIs are receiving, apply for, or plan to apply for competitive funding programs (including CREST / PRESTO / ACT-X, AMED-CREST, PRIME) or other research funds (all current research funds for individual research subjects, such as subsidies, grants, joint research funds, contract research funds, etc., including those from overseas), fill in the research project name, research period, role, amount of research expenses received by the individual, and effort. Please refer to "8.1 Measures against Unreasonable Duplication and Excessive Concentration" and "9 Limitations on Multiple Applications within the Strategic Basic Research Programs" of the application guidelines. In the case that it is difficult to enter due to unavoidable circumstances such as being unable to enter based on the contents of the confidentiality agreement that has already been concluded, it is possible to submit this research proposal without filling in any items other than effort. Please note that this information will be provided to the reviewers at the time of proposal selection.
- If the information entered in the research proposal differs from reality, the research project may be rejected.
- We may ask for application and plan documents submitted to other systems when a proposal reaches the interview screening.
- Enter this proposed CREST project first, followed by other research projects in a descending order of the amount of research funds (for the whole period, only direct cost) the applicant receives.
- Add rows if needed.

(\*) When applying, the call of FY2021 is made based on the fact that the "Integrated Innovation Strategy 2020" stipulates that "disclosure of information on the status of acceptance of foreign funds is a requirement when applying for research funds." Therefore, it is clarified that research funds from overseas should also be entered in the form of "whether or not there is other support" (or "status of application / acceptance of research funds, etc." depending on the project). In addition to competitive funds, both domestically and internationally, please list all research funds such as grants from private foundations, contract research expenses from companies, and joint research expenses.

### PI : Name (Affiliation)

No.	Program (Name of Institution)	Status	Title of Project (Name of Principal investigator)	Research Period	Role (Principal Investigator or co-Principal Investigator)	Research Fund Received (1) Allocated Budget (For entire period) (2) FY 2024 (planned) (3) FY 2024 (planned) (4) FY 2022 (actual)  (Thousand yen/unit)	2023 FY Effort (%)
-	CREST (This Application)	Submitted	Title of the proposed research project (Name of the PI)	2023.10 — 2029.3	Principal Investigator	(1) (2) (3) <i>*Same amounts in form 5 "2.PI's Group"</i>	30
(1)	Grants-in-Aid for Scientific Research, Fundamental research (S) (Japan Society for the Promotion of Science)	Awarded	Creating W by V (** *)	2022.4 — 2025.3	Principal Investigator	(1) 100,000 (2) 50,000 (3) 25,000 (4) 5,000	10
(2)	ALCA, JST Strategic Basic Research Programs (Japan Science and Technology Agency)	Submitted	Achieving high performance in X by Y (** *)	2023.10 — 2029.3	Co-Principal Investigator	(1) 90,000 (2) 35,000 (3) 8,000 (4) -	-

(3)						(1) (2) (3) (4)	-
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### 【Notes for Description】

Due to unavoidable circumstances, e.g. confidentiality agreement, it is possible to submit without filling in the items other than effort. (This research proposal will be provided to outside experts during the screening process.)

#### (1) Status

Enter one of the following.

Do not enter effort for a theme corresponding to “Submitted” except for the CREST proposed theme.

**Awarded:** It is currently awarded, or decided to be awarded.

**Submitted:** It is at the state of selection and it is yet to be decided to be awarded.

#### (2) Role

Enter one of the following.

**Principal Investigator:**

Research fund is to be received as a representative for the research theme.

**Co-Principal Investigator:**

Research fund is to be received as a person in a non-representing position for the research theme

#### (3) Research fund received

Enter the amount of the research fund in thousand yen in a following manner.

(a) Awarded as “Principal Investigator” in the research project

Enter the amount of the research fund of the team supervised by the Principal Investigator, excluding that of joint research teams.

(b) Awarded as “Co-Principal Investigator”

Enter the amount of the research fund of the joint research team represented by the Co-Principal Investigator.

#### (4) Effort

Enter “ratio of time (%) necessary for conducting research relative to 100% for the whole work hours during the CREST research period (2023.10-2024.3) in fiscal year 2023 if adopted for CREST. Do not enter effort for themes that are already applied and in the process of selection, or that are planned to be applied (those entered as “Submitted”).

Take care that the sum of effort for the theme proposed for CREST and other themes that are entered as “Awarded” does not exceed 100%.

**Co-PI (1) : Name (Affiliation)**

No.	Program (Name of Institution)	Status	Title of Project (Name of Principal investigator)	Research Period	Role (Principal Investigator or co-Principal Investigator)	Research Fund Received (1) Allocated Budget (For entire period) (2) FY 2024 (planned) (3) FY 2023 (planned) (4) FY 2022 (actual)  (Thousand yen/unit)	2023 FY Effort (%)
-	CREST (This Application)	Submitted	<i>Title of the proposed research project (Name of the PI)</i>	2023.10 — 2029.3	Co-Principal Investigator	(1) (2) (3) <i>*Same Amounts in form 5 "2.Co-PI's group 1"</i>	20
(1)	Health and Labor Sciences Research Grants (Ministry of Health, Labor and Welfare)	Awarded	Deployment for Z (** **)	2021.9 — 2025.3	Principal Investigator	(1) 50,000 (2) 20,000 (3) 20,000 (4) 5,000	10
(2)						(1) (2) (3) (4)	
(3)						(1) (2) (3) (4)	

## Other Special Remarks

In Form 10, Provide an overall description of other special remarks **within three A4-size sheets (no exceptions)**. (If this instruction is not followed, the research proposal might not be accepted.) For items that have check boxes, please check the applicable ones.

**\* Please refer to “Chapter 5, 5.1.2 (2)” in the application guidelines and state whether or not you have a conflict of interest.** If there is a conflict of interest that corresponds to the application guidelines “Chapter 5 5.1.1”, it will be excluded from the selection.

### Conflict of interest between the applicant and evaluators

- (1) Conflict of interest between the research applicant (PI) and evaluators (research supervisor, research area advisor)

Follow the description of application guideline “5.1.2 (2)① Persons Involved in the Selection Process” to describe conflict of interest of the research applicant shared with the research supervisor or research area advisor of the research area to which the proposal is submitted.

<Note for Description>

#### (a) **Conflict of interest between the research applicant and the research supervisor (as an evaluator)**

As shown in the Application Guideline “5.1.1 Conflicts of Interest Involving Research Project Applicants and the Research Supervisor”, the research applicant (PI) is excluded from the selection process if the relationship between the research applicant (PI) and the research supervisor comes under the definition of conflict of interest stipulated in the guideline.

In this item, describe conflict of interest shared with the “research supervisor as an evaluator” stipulated in the Application Guideline “5.1.2 (2)① Persons Involved in the Selection Process.” Even if the relationship does not come under conflict of interest that fringe on a restriction for proposal stipulated in Application Guideline “5.1.1 Conflicts of Interest Involving Research Project Applicants and the Research Supervisor,” concisely **explain the situation when any one of the following conflict of interest exists between the applicant (PI) and the research supervisor.**

< **Cases in which conflict of interest is observed between a research applicant and the research supervisor as evaluator, although the applicant is not excluded from selection process** >

**【5.1.2(2)① b Current affiliation with the same department\* at a university or other national government-funded research and experiment institution】**

**\*: “Department” means, one level higher than the smallest unit**

**【5.1.2(2)① e Relationships of direct competition】**

**【5.1.2(2)① f Other relationships judged by JST to represent conflicts of interest】**

(Example: The research applicant was either in a close teacher-student relationship with the research supervisor, directly employed by the research supervisor or has conducted a close collaborative research with the research supervisor.)



If JST judges that “conflict of interest exists although the research supervisor is not excluded from selection process” on the basis of this information, JST will ask the research supervisor to refrain from expressing their opinion in discussions about the selection of the pertinent research applicant during the document/interview screening.

**(b) Conflict of interest between the research applicant and the research area advisor(s)**

Describe whether conflict of interest exists between the research applicant (PI) and the research area advisor. When conflict of interest is observed, **concisely describe the reason including whether the conflict of interest comes under a condition of application guideline “5.1.2 (2)① Persons Involved in the Selection Process.”** A research area advisor that JST judged to share conflict of interest based upon the description is excluded from the document screening and is asked to refrain from speaking at the selection process and not to participate in the interview screening. For this reason, be sure to clearly enter the name of the research area advisor with conflict of interest. As for a list of research area advisors, see the website for research areas to which applications are to be submitted, which is linked to the website for submitting applications.

**[Application Guideline 5.1.2.(2): Conditions for those with conflict of interest (summary)]**

**(a) Relatives**

**(b) Current affiliation with the same department or research lab as the research project applicant at a university or other national government-funded research and experiment institution, or current affiliation with the same company**

**\*: “Department” means, one level higher than the smallest unit**

**(c) Close cooperation on a joint research project (For example, working on a joint research project, publishing co-authored a research paper, working toward the same objectives as a member of the same research team, performed different parts of the same research project, or were otherwise essentially affiliated with the same research group).**

**(d) Close teacher-student relationship, or a direct employer-employee relationship**

**(e) Relationships of direct competition**

**(f) Other relationships judged by JST to represent conflicts of interest**

- (a) Conflict of interest between the research applicant and the research supervisor (as an evaluator):

☐YES      ☐NO

*If YES, state the reason.*

The research applicant conducted joint research with the research supervisor on ○○project (20xx-20xx). It comes under condition (f) for conflict of interest stipulated in 5.1.2(2)①.

- (b) Conflict of interest between the research applicant and the research area advisor(s):

☐YES      ☐NO

*If YES, write the name of research area advisors with conflict of interest and state the reason.*

Research area advisor with conflict of interest: (The Advisor's Name)

Reason: The research applicant is conducting joint research with the research area advisor in \*\* project. It comes under conditions (c) for conflict of interest stipulated for 5.1.2(2)①.

- (2) Conflict of interest between the Co-PIs and evaluators (the research supervisor/ research area advisors)

<Note for Description>

Follow the description of application guideline "5.1.2 (2)① Persons Involved in the Selection Process" to describe conflict of interest of each Co-PI shared with the research supervisor to which the proposal is submitted.

If JST judges that the conflict of interest exists on the basis of this information, JST will ask the research supervisor and the research area advisor to refrain from expressing their opinion in discussions about the selection of the research applicant that plans to collaborate with the pertinent Co-PI during the document/interview screening.

***[Application Guideline 5.1.2.(2): Conditions for those with conflict of interest (summary)]***

***(a) Relatives***

***(b) Current affiliation with the same department or research lab as the research project applicant at a university or other national government-funded research and experiment institution, or current affiliation with the same company***

***\*: "Department" means, one level higher than the smallest unit***

***Example: When affiliation is, JST university, Chemical Department, Biology Course, Engineering Laboratory, "Biology course" will be the corresponding "Department"***

***(c) Close cooperation on a joint research project (For example, working on a joint research project, publishing co-authored a research paper, working toward the same objectives as a member of the same research team, performed different parts of the same research project, or were otherwise essentially affiliated with the same research group).***

***(d) Close teacher-student relationship, or a direct employer-employee relationship***

***(e) Relationships of direct competition***

***(f) Other relationships judged by JST to represent conflicts of interest***

**(a) Co-PI (1): (Name), (Affiliation)**

**1) Conflict of interest with the research supervisor (as an evaluator):**

☐ YES      ☐ NO

If YES, state the reason.

Reason: He/She is conducting joint research with the research supervisor in \*\* project (20xx-20xx). It comes under conditions (f) for conflict of interest stipulated for 5.1.2(2).

**2) Conflict of interest with the research area advisor(s):**

☐ YES      ☐ NO

If YES, write the name of research area advisors with conflict of interest and state the reason.

Research area advisor with conflict of interest: (The Advisors' Name)

Reason: He/She is conducting joint research with the research area advisor in \*\* project.

It comes under conditions (c) for conflict of interest stipulated for 5.1.2(2).

(b) Co-PI (2): (Name), (Affiliation)

1) Conflict of interest with the research supervisor:

☐YES ☐NO

If YES, state the reason.

Reason: He/She is conducting joint research with the research supervisor in \*\* project (20xx-20xx). It comes under conditions (f) for conflict of interest stipulated for 5.1.2(2).

2) Conflict of interest with the research area advisor(s):

☐YES ☐NO

If YES, write the name of research area advisors with conflict of interest and state the reason.

Research area advisor with conflict of interest: (The Advisors' Name)

Reason: He/She is conducting joint research with the research area advisor in \*\* project.

It comes under conditions (c) for conflict of interest stipulated for 5.1.2(2).

**Co-PI's group organization that is related to the PI (organizations etc. established based on R&D achievements by the PI etc.)**

<Notes for Description>

Follow the instructions in Application Guideline, Section 5.1.2,(2)① Persons Involved in the Selection Process, "Conditions for those with conflict of interest" to describe whether the organization to which the Co-PI belongs is "an organization in relation to the PI." If this is applicable to your case, describe the grounds for such applicability.

"An organization that is related to the PI" refers to any of the organizations that fall under the following categories. Items "a" and "b" are applicable not only to the PI but also to the spouse and the relatives in the first degree of the research representative (hereinafter referred to as "the PI etc.").

a. An organization established based on R&D achievement of the PI etc.

(Including the case in which the researcher or the like is not directly involved in the business management but is merely given a title such as technical consultant and the case in which the researcher or the like has stocks.)

b. An organization in which the PI etc. is a director (including a CTO but excluding a technical consultant)

c. An organization whose PI has stocks

d. An organization whose PI is rewarded for implementation

Organization that is related to the PI:

☐YES ☐NO

If YES, write the name of the organization and the Co-PIs as well as state the reason.

The name of the organization (the Co-PI's name participating): XX Corporation (Taro Kagaku)  
Reason: This organization was established based on R&D achievement by the research director, which conforms to Item (a) among the requirements defined in 5.1.2 (2) ②.

### **Participation by a research group of a company financed by JST**

#### **<Notes for Description>**

Follow the instructions in Application Guideline, Section 5.1.2 (2)① Persons Involved in the Selection Process, "Conditions for those with conflict of interest" to describe whether the organization to which the PI belongs or to which a Co-PI belongs is a company in which JST has invested.

"The organization that is related to the PI" refers to any of the organizations that fall under the following categories. Items "a" and "b" are applicable not only to the PI but also to the spouse and the relatives in the first degree of the PI (hereinafter referred to as "the PI etc.").

\*For the companies in which JST has invested, access the following website. The companies in which JST has terminated the investment are not within the scope of our management of the conflict of interest. You do not need to describe such companies.

<https://www.jst.go.jp/entre/result.html#M01>

\*The standard date to determine the applicability of the conditions described above is the date on which we begin accepting applications. Describe the companies that are disclosed as a company in which JST has invested as of the standard date. If a company is one of the companies in which JST is going to invest but is not disclosed as such, do not describe such a company for the sake of the secrecy of the internal information of JST.

For the disclosed information on the investment made by JST, access the following website.

<https://www.jst.go.jp/entre/news.html>

Participation by a company financed by JST:

☐ YES    ☐ NO

If YES, write the name of the organization and the PI / the Co-PIs.

The name of the organization (the PI): XX Corporation (Taro Kagaku)

The name of the organization (a Co-PI): XX Corporation (Taro Kagaku)

### **(Only for those relevant) The contact of the manager at the department or the division in charge of the research agreement at the overseas research institute**

*Enter name, affiliation, e-mail address, and telephone number.*

#### **<Notes for Description>**

Follow the instructions in Application Guideline, Section 2.2.6 Proposal Submission Requirements (2) Requirements for Organizing a Research Project, we strongly welcome participation by research groups overseas in the CREST program. However, the research costs of the groups belonging to an institute overseas, are, in principle, not funded by JST; therefore, their research costs may need to be funded by themselves.

If it is recognized that it is essential for a research institute overseas to participate in a research as a

Co-PI's group (a researcher belonging to the research institution overseas participates in the research as a joint researcher) to fulfill the concept of the research, the research cost of the research group can be funded by JST. If you want to compose a research team involving a research institute overseas (which requires approval by the research supervisor), describe the reasons that the joint researcher belonging to a research institute overseas is required in your research proposal (CREST - Form 4-2). Further, even in a proposal that assumes that JST funds the research cost, separately describe a plan for cooperation with the group in the proposal (CREST - Form 4-2) in case where a contract is not concluded.

A research contract needs to be concluded between JST and the overseas research organizations. For this reason, check with the person responsible for research contracts at the overseas research organization to find whether a research contract could be concluded using the template for research contracts with overseas research organizations shown at the below URL ([https://www.jst.go.jp/kisoken/boshuu/teian/koubo/agreement\\_crest.pdf](https://www.jst.go.jp/kisoken/boshuu/teian/koubo/agreement_crest.pdf)).

JST may directly check whether a contract could be concluded with the overseas research organization with a person at its department responsible for research contracts through the research applicant after the deadline for proposals. For this purpose, enter the contact (name, affiliation, e-mail address, telephone number) of the person responsible for research contracts at the overseas research organization.

Before the interview screening, submit a form (required for only the applicant who is to be interviewed after the document screening) for entering whether the person responsible for research contracts at the research organization approves the requirements for the research contract presented by JST (\*).

(\*) JST's Requirements for research contract: The payment for indirect expenses does not exceed 30% of the direct expenses (research expenses). The intellectual property rights for the results of the proposed research must be shared in half (50:50) with JST. The Research Institute shall disclose to JST each intellectual property right created in performing the Collaborative Research within 10 business days. The overseas organization must prepare and provide JST with detailed documents describing pertinent expenses in English. For the details, see "Template for research contracts to be used by overseas research organizations" described above.

### **(Only for those relevant) special notes for efforts by a PI**

If the PI (Managers such as the Dean of the Graduate School) requires work time(efforts) for a special task, please indicate so.

### **The other special remarks:**

- Differences from the previous application (in case of applications that have been made to the research area two times or more)
- Change of research institute affiliation, other special notes