# FY 2024 Application CREST 【Carbon-Blue X】Research Proposal

(CREST - Form 1)

* **Fill in form 1 within one page of A4 paper (observe strictly).**
* You may delete notes in 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 | When the title is in English, describe the title also in Japanese (about 20 characters) along with the English title. |
| Name of Research Director (PI) |  |
| Affiliated Institution,  Section, Title | Describe the affiliation and title accurately without any omission. (i.e., describe Graduate school, Department, Majors, XX laboratory, and project/tenure/associate/assistant professor). |
| Academic Background |  |
| Professional Appointments of Research Director (PI)  (Main work history and research contents) | Notes: Delete this textbox of notes in submission.   * To describe the Form 1 to 9, please follow the “Instructions for Preparing a Proposal”. Fill in form 1 on one page of A4-size sheet (no exceptions). * Please delete the notes in blue in this and other forms. * In case that information entered in e-Rad is different from that in research proposal documents, that in this research proposal will be considered correct. Moreover, Pay attention to the unit of budget as Thousand Yen. * Research proposals need to be converted to PDF format before being uploaded to e-Rad. Please use the PDF conversion function of e-Rad for conversion. |
| Information of Research Director (PI) | URL: |
| Research Period | [Oct. 2024] – [mm. yy] (xx years) |
| Total Research Budget | Total Budget: 　　　thousand yen |

(CREST - Form 2)

# 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).
* Please insert figures and tables (in color, permitted) appropriately to be undertaken clearly.

(CREST –Form 3-1)

# 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)**

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

## 3．Research Plans and Approach

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

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

(CREST – Form 3-2)

# 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) |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 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.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Research Subjects | 2024  Fiscal year  (6 months) | | 2025  Fiscal Year | | 2026  Fiscal  Year | | 2027  Fiscal  Year | | 2028  Fiscal  Year | | 2029  Fiscal Year  (12months) | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (PI’s Group) |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (Co-PI’s Group 1,2) |  |  |  |  |  |  |  |  |  |  |  |  |
| **2．** |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (PI’s Group) |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (Co-PI’s Group 2) |  |  |  |  |  |  |  |  |  |  |  |  |
| **3.** |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (PI’s Group  Co-PI’s Group 1) |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (Co-PI’s Group 2) |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (PI’s Group) |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (PI’s Group) |  |  |  |  |  |  |  |  |  |  |  |  |
| ・  (Co-PI’s Group 1) |  |  |  |  |  |  |  |  |  |  |  |  |

(CREST – Form 4-1)

# 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

|  |  |  |
| --- | --- | --- |
| **PI** | **Affiliation, Department** | **Title** |
| ○○　○○ |  |  |
| **Research**  **Participants** | **Affiliation, Department**  (Omit if the same as above) | **Title** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## ○ Research Subjects and Overview

### ・Title of Research Theme：

### ・Research Subjects in Charge：

### ・Overview of the research：

### ・Role in the entire research project：

(CREST – Form 4-2)

# 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).

## Co-PI’s Group (1)

|  |  |  |
| --- | --- | --- |
| **Co-PI** | **Affiliation, Department** | **Title** |
| ○○　○○ |  |  |
| **Research Participants** |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## ○ Research Subjects and Overview

### ・Title of Research Theme of the Co-PI’s group：

### ・Research Subjects in Charge：

### ・Overview of the research：

### ・Role in the entire research project and necessity：

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

※The research fund for the groups belonging to an oversea institution, in principle, not funded by JST. Researchers affiliated with overseas research institutions cannot be the Co-PI's.

If you wish to form a research team that includes overseas research institutions, please state the reason why you need joint researchers affiliated with overseas research institutions. JST obtain approval from the research supervisor in the document screening.

* Necessity of the joint research group for achieving the goal of the project
* Availability of specific 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.

(CREST – Form 5)

# Research Budget

* Prepare the budget plan and sort it by items and by groups for each year.

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1st Year**  2024.10～  2025.3 | **2nd Year**  2025.4～  2026.3 | **3rd Year**  2026.4～  2027.3 | **4th Year**  2027.4～  2028.3 | **5th Year**  2028.4～  2029.3 | **Final Year**  2029.4～  2030.3 | **Total**  (Thousand yen) |
| **Equipment** |  |  |  |  |  |  |  |
| **Materials/**  **Consumables** |  |  |  |  |  |  |  |
| **Travel** |  |  |  |  |  |  |  |
| **Personnel and Services**  **(Number of Researchers)** | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |  |
| **Other** |  |  |  |  |  |  |  |
| **Total**  (Thousand yen) |  |  |  |  |  |  |  |

## Remarks on the research budget

(CREST – Form 5)

## 2．Research Budget plan by group

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1st Year**  2024.10～  2025.3 | **2nd Year**  2025.4～  2026.3 | **3rd Year**  2026.4～  2027.3 | **4th Year**  2027.4～  2028.3 | **5th Year**  2028.4～  2029.3 | **Final Year**  2029.4～  2030.3 | **Total**  (Thousand yen) |
| **PI’s Group**  **〇〇〇〇**  **（\*\*University）** |  |  |  |  |  |  |  |
| **Co-PI’s Group 1**  **〇〇〇〇**  **（\*\*University）** |  |  |  |  |  |  |  |
| **Co-PI’s Group 2**  **〇〇〇〇**  **（\*\*University）** |  |  |  |  |  |  |  |
| **Total**  (Thousand yen) |  |  |  |  |  |  |  |

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

(CREST – Form 6)

# Research Achievements

**(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].
* Keep Form 6 within 10 items and within three pages.

(CREST – Form 7)

# Research Achievements (Co-PI(s))

**○ Co-PI’s Group 1**

**Co-PI：（example）Taro Kagaku（〇〇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.
* Keep Form 7 within two pages per a Co-PI.

# Information on Other Supports

(CREST – Form 8)

* 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.
* 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 2025 (planned)**  **(3) FY 2024 (planned)**  **(4) FY 2023 (actual)**  **（Thousand yen/unit）** | **2024**  **FY**  **Effort**  **(％)** |
| - | CREST  (This Application) | Sub-mitted | Title of the proposed research project (Name of the PI) | 2024.10  －  2030.3 | Principal Investigator | (1)  (2)  (3)  *\*Same amounts in form 5*  *”2.PI’s Group”* |  |
| (1) |  |  |  |  |  | (1)  (2)  (3)  (4) |  |
| (2) |  |  |  |  |  | (1)  (2)  (3)  (4) - | - |
| (3) |  |  |  |  |  | (1)  (2)  (3)  (4) - |  |

## 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 2025 (planned)**  **(3) FY 2024 (planned)**  **(4) FY 2023 (actual)**  **（Thousand yen/unit）** | **2024**  **FY**  **Effort**  **(％)** |
| - | CREST  (This Application) | Submitted | *Title of the proposed research project*  *(Name of the PI)* | 2024.10  －  2030.3 | Co-Principal Investigator | (1)  (2)  (3)  *\*Same Amounts in form 5*  *“2.Co-PI’s group 1”* |  |
| (1) |  |  |  |  |  | (1)  (2)  (3)  (4) |  |
| (2) |  |  |  |  |  | (1)  (2)  (3)  (4) |  |
| (3) |  |  |  |  |  | (1)  (2)  (3)  (4) |  |

# Other Special Remarks

(CREST – Form 9)

* In Form 9, Provide an overall description of other special remarks **within four 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.
* Until previous years, research applicant who had a conflict of interest with the research supervisor were excluded from selection, however this will be abolished from FY2024. (refer to Ch 5.1.1)

## 1．Conflict of interest between the applicant and evaluators

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

(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 (d) 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 (d) 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)

(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 (d) 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 (d) 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 (d) 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 (d) for conflict of interest stipulated for 5.1.2(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.)

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.

## 3．Participation by a research group of a company financed by JST

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)

## 4．(Only for those relevant group) The confirmation regarding research implementation at overseas research institutions

## (1) 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.

## (2) Things to check in advance

Please check the following items.

|  |  |
| --- | --- |
| Check Items | Check |
| The overseas research institution where the research will be conducted has agreed to the following: (refer to “Collaborative Research Agreement”)  ・When disbursing research funds provided by JST, indirect costs do not exceed 30% of direct costs.  ・Submit an accounting report in the format prescribed by JST, describing the use of research funds. Comply with the use of expenditure items specified by JST in accounting reports. |  |
| If Co-PI is a postdoctoral fellow affiliated with an overseas research institution, the supervisor of the affiliated laboratory has given consent to carry out the research if this proposal is adopted. |  |

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

## 6．The other special remarks:

* If you are submitting multiple applications for the same research area, please describe the differences from the previous proposal.
* If you have any plans for a change, please let us know.
* Please feel free to use any other information such as describing your enthusiasm for this research proposal.

# Proposal Preparation Checklist

(CREST – Attachment)

**※This checklist should be deleted in submission※**

|  |  |  |
| --- | --- | --- |
| Check | Reference Material | Check |
| Have you completed e-Rad researcher registration? (Co-PIs as well) | Chapter 10 | □ |
| Have you completed the educational program on research integrity? | Section 8.32 | □ |
| Have you checked if you do not fall under the Limitation on the Multiple Application (AMED program included)? | Chapter 9 | □ |

**○ Deadline for Submission**

Immediately before the deadline, e-Rad may suffer high system burden. As a result, the application may take a long time, and troubles, including the failure to complete the application, may occur. Try to complete the application well in advance.

**○Forms**

Check the proposal documents for possible omissions before submission. A proposal application may not be accepted if relevant forms have been filled out incorrectly. Also, when converting to PDF format, please use the PDF conversion function of e-Rad.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Item | Main Check Point | Check Column |
|  | Input of general information on the applicant to e-Rad | All necessary information is provided. File sizes should not exceed 3MB in total in PDF format. | □ |
| Form　1 | Cover of research proposal documents | All necessary information is provided.  Information is matched with e-Rad data.  The form 1 is within one page when converted to PDF | □ |
| Form　2 | Research Proposal Overview | When converted to PDF format, the form 2 is in one page long? 10.5 point or larger font? | □ |
| Form　3-1 | Project Description | The form 3-1 is within six pages when converted to PDF. | □ |
| Form　3-2 | Project Organization and Research Schedule | The form 3-2 is within two pages when converted to PDF. | □ |
| Form　4-1 | Research Project Organization 1 (within two pages) | All necessary information is given. The form 4-1 is within two pages when converted to PDF. | □ |
| Form　4-2 | Research Project Organization 2 (within two pages for each group) | All necessary information is given.  The form 4-2 is within two pages for each joint research group when converted to PDF. | □ |
| Form　5 | Research Budget | Total Sum is matched with the research budget given in Form 1. | □ |
| Form　6 | Research Achievements (PI) | Within 3 pages in PDF. | □ |
| Form　7 | Research Achievements (Co-PIs) | Within 2 pages in PDF per person. | □ |
| Form 8 | Information on Other Supports | All necessary information is given (Especially the efforts). | □ |
| Form　9 | Other Special Remarks | The form 9 is within four pages when converted to PDF. | □ |