2020 Joint Usage/Research Program Application Guidelines Institute for Catalysis, Hokkaido University

Since April 2010, Catalysis Research Center (CRC), the predecessor of Institute for Catalysis (ICAT), has been authorized as the Joint Usage/Research Center in catalytic chemistry. The institute has been conducting joint researches with nationwide researchers and has produced many fruitful achievements concerning catalytic chemistry. When CRC was reorganized into ICAT, Catalysis Collaborative Research Center was established in addition to the Department of Fundamental Research, Department of Practical Applications and Department of Target Research, in order to build a new catalytic science by stepping over the conventional framework of catalytic chemistry. Through collaboration with different fields such as physics, materials science, life science, mathematics, information science, chemical engineering, etc., we pursue collaborative researches on catalytic science and aim at forming an international network of catalyst research.

In 2020, we open application to the Joint Usage/Research Program on sustainable catalysts aimed at building new energy, resources and material systems, creation of new academic fields based on catalysts, improvement of catalyst function and support for multidimensional analysis of catalyst. Please follow the instruction below to submit your application.

1. Application guidelines

In Joint Usage/Research Program, a researcher outside Hokkaido University becomes the Principal Investigator and a faculty member at ICAT becomes the Partner Researcher. In principle, the research should be conducted jointly at ICAT. There are three types of Joint Usage/Research Programs (see 1-1): "Strategic Research Project" for which research subjects are set in advance, "Proposal-Based Project" for which applicants themselves set their research subjects, and "On-Demand Collaboration" for which applicants can apply upon their demand. The Joint Usage/Research Program is conducted in collaboration with one of the Research Divisions, Research Clusters of ICAT (see 1-2).

1-1 Categories in the Research Project

(1) Strategic Research Project

Based on the opinion of the research community, ICAT sets up the Joint Usage/Research subjects for each fiscal year. In particular, we welcome proposals that incorporate different fields and international collaborations. (Form 1)

It is possible to use the budget for necessary items and traveling expenses (Please ask the ICAT Partner Researcher for limitations). Researchers from multiple research institutions (including overseas) can participate in the project. The research will start from the beginning of the fiscal year and conduct throughout the fiscal year. (See <u>Table I</u> for the research subject of this fiscal year)

(2) Proposal-Based Project:

ICAT accepts research subjects based on own idea of researchers in catalytic science. We welcome unprecedented ideas, such as exploratory research proposals, proposals beyond the framework of catalytic chemistry, etc. (Form 2)

It is possible to propose various types of Joint Usage/Research, such as researches at exploratory, inventive, pilot and preparatory stages, and proposals of research meetings or workshops. The starting date of the research has some flexibility. (We issue three calls for proposals each year.)

(3) On-Demand Collaboration:

ICAT accepts collaboration in catalysis and related area of science at any time when necessary. The collaboration in this category is self-supporting, and ICAT does not provide research budget. (Form 5)

1-2 Research units

Joint Usage/Research is conducted in collaboration with an ICAT Partner Researcher in Research Division or Research Cluster of ICAT. Prior to submitting your application, you should discuss the research objective and plan with the ICAT Partner Researcher who is in charge of your proposal. Please refer to the <u>Table II</u> for a list of faculty members.

1-3 Research period

For Strategic Research Projects, the period starts from April 1, 2020 through March 31, 2021. For Proposal-Based Projects, it is from the date of adoption (see Table below, three times a year) through March 31, 2020. It is possible to continuously apply for both Strategic Research Projects and Proposal-Based Projects, and the applications are screened every fiscal year. Strategic Research

Projects can be continued for up to two years. For On-Demand Collaboration, the project starts from the day of approval until March 31, 2021.

1-4 Research Expenses

ICAT will bear the expenses for the Joint Usage/Research within the budget (see table below). Experimental items which are directly necessary to carry out the Research Project are available for purchase. It is possible to pay the travel expenses for visiting ICAT for the Principal Investigator, Co-Investigators and Collaborators listed in the application form.

	Strategic Research Project	Proposal-Based Project
Project Type	Research plans set by ICAT for each fiscal year	Three calls for proposals each year to agilely respond the opportunity for Joint Usage/Research.
Research Period	2020/04/01 - 2021/03/31	(First period) 2020/04/01 - 2021/03/31 (Second period) 2020/08/01 - 2021/03/31 (Third period) 2020/12/01 - 2021/03/31
Number of Adoption	About 3 to 5	About 15 (Number of adoption depends on the budget.)
Budget	Within 1,000,000 JPY	Approximately 150,000 JPY
Application deadline	January 6 (Mon), 2020	(First period) January 6 (Mon), 2020 (Second period) June 19 (Fri), 2020 (Third period) October 23 (Fri), 2020

2. Qualifications

A Principal Investigator applying for the Joint Usage/Research should be a researcher in a university (national, public, private) or a research institution (public, private), or equivalent. Hokkaido University is excluded.

In order to carry out the research project, Principal Investigator can add Co-Investigators who have the above qualification. Graduate students (excluding undergraduate students) instructed by the Principal Investigator can be added as "Collaborators". In these cases, it is necessary to obtain prior consent from the ICAT Partner Researcher.

3. Proposal Guidelines

Fill out the application form (<u>Form 1</u> (Strategic Research Project), <u>Form 2</u> (Proposal-Based Project), and Form 5 (On-Demand Collaboration)) and submit it by the above deadline.

It is necessary to obtain approval from the head of the applicant's organization in advance (excluding those who are not currently affiliated with the organization, such as emeritus professors.)

Completed application forms should be submitted by email as an attachment to the email address below. Title of the email should be "Joint Usage/Research Proposal Application".

You can apply for duplication in the Proposal-Based Project with the same research subject as the Strategic Research Project. In that case, please circle "Yes" in the corresponding column of the application form (Form 1).

4. Application deadline

The deadline is stated in the table above.

5. Selection procedure

With regard to the adoption and the amount of the budget, the director of ICAT will make the final decision after the discussion by the Screening Committee for Cooperative Research Projects in ICAT.

6. Notice of adoption / rejection

The result of the selection will be informed to the applicant directly.

After adoption, promptly submit "Agreement with Institute for Catalysis, Hokkaido University on the Joint Usage/Research" (Form 3).

7. ICAT Fellows

A title of "ICAT Fellow, Institute for Catalysis, Hokkaido University" will be given to the Principal Investigators and Co-Investigators of a Strategic Research Project. (Faculty members of Hokkaido University is excluded).

8. Submission of Report, Disclosure of Research Outcomes

(1) Research Report of the Joint Usage/Research, Institute for Catalysis, Hokkaido University

Please submit "Research Report of the Joint Usage/Research, Institute for Catalysis, Hokkaido University" (Form 4) within 30 days after the end of the research period. Additionally, a report is requested to submit for publishing on the ICAT web page. A two-page or one-page report in A4

sheet is required for a Strategic Research Project or a Proposal-Based Project, respectively. For the Proposal-Based Project, the report for the web page can be substituted by the off-print of articles after the publication. The submitted reports will be published within one year after the end of the research period. For the On-Demand Collaboration, the report submission is not mandatory but appreciated.

(2) Disclosure of Research Outcomes

When you present your research outcomes as a journal article or other means, please acknowledge the outcome as the result of a Joint Usage/Research project with ICAT, Hokkaido University. Please submit a copy of abstracts or papers promptly to the ICAT Partner Researcher and the following submission destination.

Below is an example of an acknowledgment.

This study was supported by the Cooperative Research Program of Institute for Catalysis, Hokkaido University. (Proposal #......)

(3) Intellectual Property Rights

Intellectual property rights generated from the Collaborative Research will be separately negotiated.

9. Contact information

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Submit your report to: kyoten@cat.hokudai.ac.jp

URL: http://www.cat.hokudai.ac.jp

- ➤ Notes (<u>PDF file</u>)
- Research Projects 2019 (Table I)
- Research outline of each division/cluster and contact information (<u>Table II</u>)
- ➤ Outline of Available Facilities and Contact Information (Table III)
- > 2019 Joint Usage/Research Proposal Application Form for Strategic Research Project (Form 1)
- ➤ 2019 Joint Usage/Research Proposal Application Form for Proposal-Based Project (<u>Form 2</u>)
- Agreement with Institute for Catalysis, Hokkaido University on the Joint Usage/Research (<u>Form</u>

<u>3</u>)

- Research Report of the Joint Usage/Research Institute for Catalysis, Hokkaido University (Form 4)
- ➤ 2020 Joint Usage/Research Proposal Application Form for On-Demand Collaboration (Form 5)