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Department of Innovation Research, and Department of Research Project  
Japan Science and Technology Agency

## **Data Management Policy for Strategic Basic Research Programs**

The effective use of data, such as obtaining new knowledge through data-driven science, optimizing research through data sharing, is expected to be one of the keys for future dramatic advancement of science and technology. The trend of the disclosure of research data was brought up at the G8 Science Ministers' Meeting in London, UK, in June 2013, which has led to the global interest in the promotion of research data utilization.

In March 2015, "Promoting Open Science(\*1) in Japan -Opening up a new era for the advancement of science-" was released by the "Expert Panel on Open Science, based on Global Perspectives" under the Cabinet Office of Japan, aiming at utilization of research results from publicly funded programs. This report also stated that ministries, funding agencies, universities and research institutions should be responsible for the implementation of plans and policies for open science. Under this statement, it has been proposed that funding agencies shall formulate the policy for handling research data from publicly funded project, by the external councils of the Academic Information Committee of the Ministry of Education, Culture, Sports, Science, and Technology (MEXT), and the Science Technology Information Committee of Japan Science and Technology Agency (JST).

Based on those movements, JST requires in principle that research directors (\*2) will create data management plans after approval, and store, manage and disclose data according to the approved plan, in the research areas (\*3) of JST-CREST, PRESTO, ERATO, and ACCEL, where the research results will be generated effectively and such results are expected to lead new products, services, or markets. The research directors needs to submit the data management plans to JST, after getting mutual consensus on handling the research data (\*4) among research participants of the teams.

Topics in data management plans which are not specified in this policy will be settled by agreement among research participants.

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(\*1) "Open science" refers to a new approach to promoting innovation through knowledge creation in science and technology. This will be realized by facilitating access to and use of publicly funded research results such as scientific papers and their underlying data by the scientific community, industry and the general public.

(\*2) Research directors are individuals determined in "2. Persons Responsible for Creating Data Management Plans."

(\*3) Research areas that are applied to this policy will be decided upon based on "1. Target Research Programs."

(\*4) In this policy, research data shall be deemed equivalent to original articles or other results of research and development activity of greater value than articles. Research data include meta data, numerical data, text records, images, visual data, and other types of data, as well as programs that handle data.

## **1. Target Research Programs**

Of the research programs promoted by JST, the following (1) to (4) are the target of this policy.

- (1) Core Research for Evolutionary Science and Technology (CREST)
- (2) Precursory Research for Embryonic Science and Technology (PRESTO)
- (3) Exploratory Research for Advanced Technology (ERATO)
- (4) Accelerated Innovation Research Turning Top Science and Ideas into High-Impact Values (ACCEL)

This policy applies to all research areas that are expected to accelerate research, maximize results, and deepen mutual understanding of researchers with different backgrounds through obtaining new knowledge by data-driven approach, or increasing the quality of research results by mutual evaluation of academic data. In principle, this policy will apply to all research areas which start their first call for proposals in 2016 and after. Additionally, as a general rule, JST will make an announcement about the research areas that this policy applies to, when JST starts call for proposals.

\*Note that JST may determine some research areas that this policy does not apply to, as a result of consultation with research supervisors (For ACCEL, the chairperson of R&D management committee).

## **2. Persons Responsible for Creating Data Management Plans**

A data management plan is a guideline for managing research data resulting from the research programs determined in the previous section, and research data that is to be disclosed, and treated as a part of the research plan. The person responsible for creating a data management plan is the research director who is responsible for creating a research plan and is titled in each research program as follows:

- (1) CREST  
Research Director
- (2) PRESTO  
Individual Researcher
- (3) ERATO  
Research Supervisor
- (4) ACCEL  
Program Managers and Research Director

## **3. Topics Described in a Data Management Plan**

A data management plan can be optimized according to factors such as research purpose, research field, and structure of research team. The research director will create the data management plan according to the following topics hereinafter and submit it to JST. If any topics to be altered along with the purpose of research area, JST will announce it to the research director before creating the data management plan. When the initial data management plan needs to be changed considering research progress, it can be done by the research director with permission of the research supervisor (For ACCEL, the chairperson of R&D management committee).

**[Topics Specified in a Data Management Plan]-----**

**(1) Management Plan for Research Data**

*\*Describe the policy to save and manage research data (See \*4 for the definition of research data) obtained as research results. It is preferable that the academic clouds owned by research institutes or other facilities are used to save and manage the research data. It is also recommended that data be saved in a format that can be utilized for other purposes.*

**(2) Plan for Disclosing Research Data**

*\* Of the management target research data from (1), specify which should be disclosed or which should be kept private. For data that should be kept private, check below (\*5) and specify the reasons for privacy.*

**(3) Provision of Disclosable Research Data**

*\* It is preferable that the disclosable research data is registered with an existing public database or at an academic society's repository, considering the continued disclosure of data after a research project has ended. If a suitable public database does not exist, the repository of a university or research institution is suggested. When providing data via a private webpage instead of a repository, the following terms of use should be formulated with the belonging institution as needed:*

- 1) ownership, license of rights, the right of alteration*
- 2) purpose of use*
- 3) data source when publishing results using research data*

**(4) Expected Use of Disclosed Research Data**

*\*For research data deemed disclosable in (2), describe the possible uses by third parties.*

*The below are examples:*

*[Example 1]*

*Disclosed research data can be used for data-driven research approach including prediction or simulation.*

*[Example 2]*

*Disclosed research data can be used as reference sources for third parties to compare and evaluate their own data.*

**(5) Utilization of Disclosed Research Data**

*\*For research data deemed disclosable in (2), describe the following points to the extent possible:*

- 1 ) Efforts to increase the reliability of research data*  
*(Example: Adding experimental conditions, specifying referred article information, and so on)*
- 2) Efforts to effective data provision through feedback from users*  
*(Example: Requirements for users such as:*
  - a) providing information of purpose of the data use*
  - b) providing information of data source when publishing*
  - c ) providing periodic users' opinions**)*
- 3) Structure to continued data accumulation, updates, and increase data accuracy*

**(6) Other topics to Mention**

*\*Describe any conceivable points to enter regarding the presentation of disclosable data, like obeying various legal regulations, exemption policy regarding the presentation of research data, etc.*

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(\*5) The following research data are to be considered as not subject to the public disclosure: (a) Research data related to privacy, confidentiality, national interest or national defense. etc.; (b) Research data collected for the purposes of commercialization or industrialization; and (c) Research data as the results of research conducted under collaborative research agreements for which disclosure restrictions exist.

(\*6) A data management plan is prepared by a research director based on his/her research purposes. Thus, JST shall not be held liable for damages due to the data management plan created according to section 3.

#### **4. Other**

This policy applies to research areas that begin their first call for proposals after April 1, 2016. However, that does not prevent this policy from applying to research areas that have already started.