Guidelines for Management of Research Data at Nagoya Institute of Technology

For Faculty Members

Introduction   Objectives of the Guidelines

Guidelines for Proper Handling of Research Information and Data at Nagoya Institute of Technology were adopted in 2016. These Guidelines state that 'research materials (e.g. documents, test notes, numerical data, images) should be properly stored so that they can be used or verified at a later date'.

These research materials are electronic files in almost all cases. In order to ensure that the electronic data is able to be used or verified, they must be stored in media in a form such that the necessary files can be easily recognized and acquired. The University therefore provides guidelines on the methods of managing electronic data, and provides model examples for the proper management of research data. Provided data is stored in accordance with these Guidelines, a third party is able to find the necessary files.

Providing these Guidelines in this way is significant in that the University is clearly demonstrating to society its intention to prevent improper research. At the same time it has the merits of facilitating exchange of information within research groups, and enabling the individual researchers to use the data at a later date. It is also important in terms of ethics education for students. It is requested that each faculty member properly instruct students belonging to their research group.

Chapter I Rules for Compartmentalization of Files and Folders

Section 1 Raw Data Such as Test and Analysis Data

Raw data shall be saved as a record of the research activities, and as evidence of the research results.

(1) Folders and files shall be prepared in accordance with defined rules within the research group.

(2) The following two are basic forms of the rule.

> **A   Graduation year folder -> Student name folder->Test method name folder
> -> Date folder -> Test specimen name file**

B   Graduation year folder -> Student name folder -> Test specimen name folder -> Test method folder -> Date file

1. It is not necessary that the rule be uniform in the entire research group, but it is desirable that one of these rules be selected by each person responsible for data (individual students).

2. If an abbreviation or serial number is used for the test specimen name, a file indicating the correspondence between the test specimen name and the test specimen information shall be prepared and stored.

(3) It shall be possible for a third party to know from the folder and file names the following 4 items: the person that acquired the data, the test method, the test specimen name, and the date the data was acquired(the sequence does not matter).

1. Thus, the minimum level of content to be written in the test notes, in other words the research activity record, shall be the folder and file names.

2. Provided this intent is complied with, the method can be flexibly changed in accordance with the nature of the research as shown in the example below.

3. When necessary, folders can be divided to increase the number of layers. For example in A of (2) above, test specimens are divided among research groups, and folders are prepared as follows.
   ->Date folder -> Test specimen group folder -> Test specimen name file

4. In the case of theoretical analysis, the above 'test method' can be read as 'analysis method', and 'test specimen name' can be read as 'setting conditions'.
   Example   Graduation year folder -> Student name folder -> Analysis method name folder -> Date folder -> Conditions name file

5. In the case of questionnaire survey results, the above 'test method' can be read as 'questionnaire survey method'.

6. When common data is managed for a research group as a whole, or for sub-groups within that research group, the above 'student name' can be read as '(sub)group name'.

   Example   (Graduation year folder ->) Sub-group name folder -> Test method

name folder -> Date folder ->Test specimen name file

(4) If data is stored in accordance with a different rule to this, a text file shall be prepared indicating the rules for applying folder and file names, and stored in the Student name folder with the title File Name Rules.

Section 2 Data for Research Papers, Oral Presentations, and Poster Presentations

In cases where questions or doubts arise after research results have been presented, it is necessary to verify the results data. The data used in a presentation must therefore be immediately stored to enable it to be referred to.

(1) For the entire research group, a folder shall be prepared for each research paper or oral presentation as described below, and the manuscript document, presentation slides, posters, and as a rule all the raw data files shall be stored in this folder.

Theses
Year folder -> Journal name folder -> First author name folder -> Paper title name folder

Presentations
Year folder -> Conference name folder -> First author name folder -> Presentation title name folder

1. If the raw data size is extremely large, store a file stating the storage location of the raw data, instead of the raw data itself.

Section 3   Master's Theses, Graduation Theses, and Meeting Documents

Each group shall define their own rules, and the University shall not define the rules.

Chapter II   Methods of Storing Data

Section 1 Identification of Storage Location

It is envisaged that there will be cases where it is necessary to verify data after a faculty member has left the University due to retirement or resignation etc. It is therefore necessary first of all to ensure it is possible to identify the storage location of the data.

(1) Data shall not be stored by each individual, but shall be managed integrally as a research group, and storage shall be with either of the following two methods.

    A A hard disk for storage of data (as a rule, storage on a single device) shall be installed for each research laboratory

    B CDs or DVDs that store the data for each student、(in this case, the disks must be stored together at a single location)

(2) Data shall not be dispersed, but shall be gathered to a single location. In other words, it shall be collected on a single hard disk or a single cabinet.

Section 2 Online Storage

If online storage is used, the system designated by the person with overall responsible for the information systems of the entire University (the CIO) shall be used. Even when online storage is used, it is desirable that the data be stored by the methods described above, in order that it will be possible for a third party to use the data at a later date in the event that the faculty member or student leaves the University. Note that when a student uses online storage, the faculty member has the ultimate responsibility for storage of the student's research data, and appropriate instruction on this matter shall therefore be given to the student.

Section 3 Backup

No rules have been defined for the method of backup and the renewal of devices, however each research group shall undertake these tasks as appropriate.

(Effective April 1, 2017)