MEXT MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY-JAPAN

Initiatives for Promotion of Research Integrity

April 2021

Office for Research Integrity Promotion

Ministry of Education, Culture, Sports, Science and Technology JAPAN

Major Initiatives for the Prevention of Misconduct in Research in Japan

MEXT

Aug. 2006 Guidelines for Responding to Misconduct in Research (First National Guidelines, MEXT)

- First national guidelines for dealing with misconduct in research
- The guidelines provide basic ideas, initiatives for preventing misconduct, responses to research misconduct, and sanctions for research misconduct, etc.

Aug. 2014 Guidelines for Responding to Misconduct in Research (Revised National Guidelines, MEXT)

- In the past, there had been a strong sense of leaving to the individual researcher the responsibility for avoiding misconduct in research; from 2014, measures have been strengthened by having universities and other research institutions assume responsibility for preventing misconduct in research.
  - Initiatives for preventing misconduct
  - Clarification of the management responsibilities of the organizations
  - Sanctions for specific research misconduct and management responsibility

Mar. 2015 Improvement of Research Integrity in Scientific Research (Science Council of Japan)

- The Science Council of Japan deliberated on the following issues and summarized their ideas.
  - Period and method of keeping experimental data
  - Basic precautions that researchers need to keep in mind
  - Scope of misconduct other than specific misconduct (fabrication, modification, plagiarism)（authorship, etc.）
  - Reference standard on research ethics education
  - Model rules for research misconduct at universities, etc.

Dec. 2018 Act on Activation of the Creation of Science and Technology Innovation (tentative translation)

- The “securing of research integrity” is provided in the “Act on Activation of the Creation of Science and Technology Innovation” promulgated in 2018.
  - Responsibility of the researchers
  - Responsibility of the research institutions
  - Responsibility of the government

The Research Integrity System in JAPAN (Focusing on MEXT)

MEXT

Cabinet Office — Policies and initiatives related to research integrity throughout Japan

Other Ministries — Initiatives based on the guidelines of each ministry

MEXT

Office of Research Integrity Promotion (Established in April 2015)

Experts Meeting on Promoting Research Integrity (Established in April 2015)

【Members of the Experts Meeting】
- 14 experts

【Role of the Experts Meeting】
- Advice on improvement of the rules and organizational structure of research institutions
- Advice on sanctions for research misconduct, etc.

Major Initiatives of the Japanese Government
- Establishment of the First National Guidelines in August 2006
- Establishment of the Revised National Guidelines in August 2014
- Establishment of the Office of Research Integrity, MEXT in April 2015
- Promulgation of the Act on Activation of the Creation of Science and Technology Innovation in December 2018

Major Initiatives of the Academic Community

【Science Council of Japan】
- Code of conduct for scientists
- Improvement of research integrity in scientific research
  - Model rules for dealing with research misconduct, etc

【APRIN】
- Global standard e-Learning Program
  - APRIN e-Learning program (eAPRIN)
  - Proposing standardized investigations of alleged research misconducts

<MEXT Initiatives>
- Thorough establishment of regulations and systems based on the guidelines
- Consultation and advice on research integrity
- Checking of the investigation result report on research misconduct
- Listing and publicizing of cases of misconduct
- Investigation and publicizing of the efforts of research institutions (good practices), etc.

Funding Organization

JSPS	JST	AMED
Research Integrity and Auditing Office	Research Integrity Division	Division of Research Integrity and Legal Affairs

- Provision of educational materials for research integrity
- Dissemination of information through a research integrity portal site
- Establishment of a network of research integrity officers

- Mandatory participation in research integrity education
- Consultation and advice on research integrity
- Checking of the investigation result report on research misconduct
- Sanctions against research misconduct

Research Institutions (Organizations receive funding from MEXT)

Rules
- Providing and disclosing appropriate rules (including investigation procedures and methods)

Organizational Structure
- Appointing an RCR education officer
- Forming of an investigating committee which includes outside experts.

- Periodic research integrity education
- Preservation, disclosure of research data
- Appropriate investigation of research misconduct

Initiatives for the Prevention of Misconduct in Research (Focusing on MEXT)

MEXT

【2014 Guidelines】

Guidelines for Responding to Misconduct in Research (MEXT, August 2014)

Applicable research activities:
Research activities based on MEXT's budget allocation

Clarification of the management responsibilities of universities and research institutions

- Setting up of the necessary organizational structure and provision of periodic research integrity education
- Provision of appropriate rules, mechanisms and organizational structures

Responding to Specific Research Misconduct

- Strict research misconduct investigations by research institutions
- Sanctions when research misconduct is found as a result of an investigation
  - ➢ Return of competitive funds (some or all)
  - ➢ Restrictions on competitive funding applications

Support for implementation of RCR education

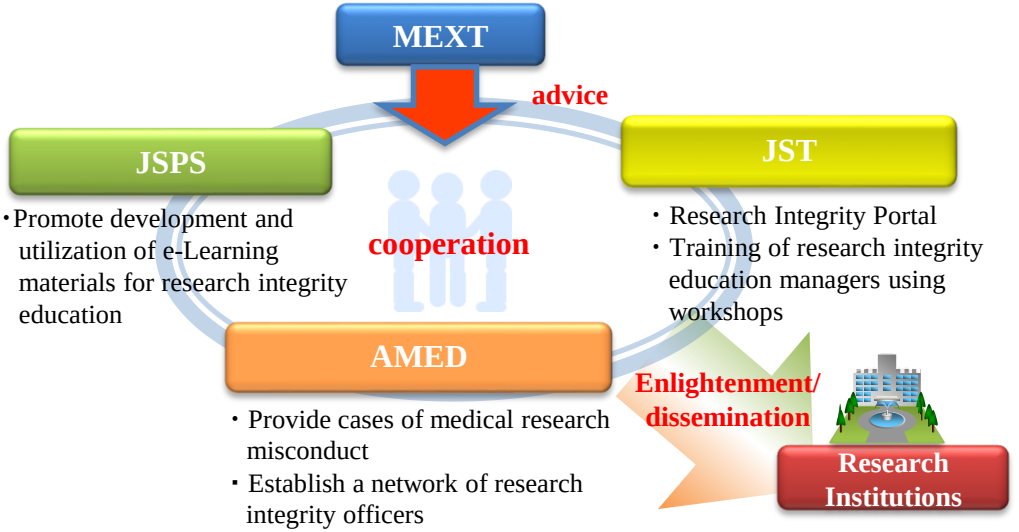
Mandatory rules and organizational structure for research institutions

【Initiatives in the Funding Organizations】

Research Integrity Promotion Program

- Provision of educational materials for research integrity
- Developing human resources for research integrity education
- Establishing a network of research integrity officers, etc.

Supporting implementation of effective research integrity education in the research institutions



【Thorough Efforts of the Research Institutions】

Confirmation of rules, mechanisms and organizational structures in the research institutions

- MEXT requires research institutions that conduct research using MEXT funding to submit a checklist to confirm the status of efforts based on the guidelines every year.
- MEXT instructs research institutions with inadequate rules or an inappropriate organizational structure to ensure that efforts are made based on the guidelines.
- If the situation in research institution is not improved, MEXT will administer sanctions such as imposing management conditions and reducing indirect costs.

【Strengthening the Research Integrity System in MEXT】

Apr. 2015 Establishment of the Office of Research Integrity Promotion

Apr. 2015 Establishment of the Experts Meeting on Promoting Research Integrity

Guidelines for Responding to Misconduct in Research (Summary)

The responsibilities of researchers and research institutions with regard to misconduct

MEXT

Basic Idea on Misconduct in Research

○ Misconduct in research violates the true nature of research activities and publication of results, and is a betrayal of science itself. A strict stance must be taken against such misconduct.

○ Dealing with research misconduct must first of all be approached as self-correction based on the voluntary efforts of researchers themselves, of the scientific community, and of universities and other research institutions.

○ It will be necessary to strengthen the approach through greater assumption of responsibility by universities and other research institutions for preventing misconduct, so as to create an environment to discourage misconduct. In particular, the management responsibilities of the organization should be clarified by establishing lines of responsibility, and efforts should be made to prevent misconduct from occurring.

Responsibilities of Researchers

Integrity in Research

○ Conducting research with integrity, being aware that the pursuit of scientific research is dependent on the trust of and mandate from the public

○ Carrying out responsible research and research management able to prevent misconduct

- ➢ Clarification of roles and responsibilities of each researcher in joint research
- ➢ Thoroughness in proper recording, preservation and strict handling of research data

Publication of Research Results

○ Making public the results obtained from research to the scientific community, while presenting data and materials that can be objectively verified (The publication of research results subjects the contents to close examination and judgment among researchers, thereby helping to build up intellectual resources .)

Compliance with Laws and Regulations

○ Observing laws and relevant regulations in conducting research

Accountability Regarding Suspicion of Misconduct

○ Taking responsibility for presenting and explaining the scientific basis of research when attempting to dispel suspicions of specific research misconduct

Responsibilities of Universities and Other Research Institutions

Establishing Lines of Responsibility as an Organization

○ Clarifying the management responsibilities of the organization and making efforts to prevent misconduct.

- ➢ Providing and disclosing the rules and structure for responding when misconduct is suspected, including investigation procedures and methods
- ➢ Taking effective measures (clarifying roles and responsibilities of researchers, having research results confirmed by the principal researcher, assigning mentors to young researchers and making other organized efforts)

Preventing Misconduct

○ Creating an environment that discourages misconduct

- ➢ Providing RCR education
  - ✓ Universities: Ensure awareness of responsible research practices by students. Provide students with RCR education.
  - ✓ Universities and other research institutions: Appoint a RCR education officer. Provide regular RCR education to the wide range of personnel involved in research activities.
  - ✓ Research funding organizations: Have all researchers involved in research receiving competitive funding take a RCR education program, and thoroughly check participation in the program.
- ➢ Mandating the preservation of research data for a set period and disclosure as necessary

Responding to Alleged Misconduct

○ Receiving allegations of specific research misconduct (fabrication, falsification, or plagiarism), conducting investigations, disclosing investigation results

- ➢ Introducing a third-party viewpoint in investigations (at least half outside experts; excluding conflicts of interest)
- ➢ Setting approximate deadlines for investigations in each research institution
- ➢ Replacing or adding committee members in the case of appeals questioning expertise in the investigation

Sanctions for Violations

○ Return of competitive funds, restrictions on new application
(Applies not only to competitive funding but to specific research misconduct in research conducted using administrative cost grants and other funding for basic operating expenses)

○ Punishment in accordance with internal rules of the organization

Sanctions for Violations

○ Reducing indirect cost grants

- ➢ Assigning administrative conditions in the case of organizational inadequacies in the research institution, and thereafter imposing sanctions if the conditions are not fulfilled or if the investigation is delayed without a legitimate reason

Research Integrity Promotion Program

Funding organizations (JSPS, JST, AMED) collaborate to develop and disseminate research integrity education materials, a network for research integrity officers, and disseminate information as part of MEXT's Research Integrity Promotion Program.

Japan Society for the Promotion of Science (JSPS)

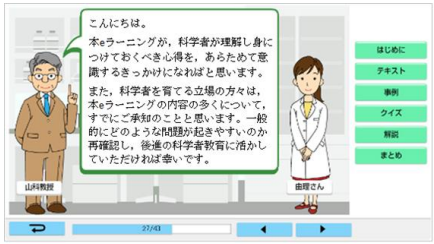
Text Learning Materials for Research Integrity Education

e-Learning Course on Research Ethics

- Provision of text materials and an e-Learning Course for research integrity education
- E-Learning materials that enable learning and thinking through examples can make it easier to understand situations that anyone is likely to fall into, and "what should not be done" and "what should be done more appropriately"

For the Sound Development of Science
-The Attitude of a Conscientious Scientist-

MARUZEN PUBLISHING,
2015.3（Japanese）
2015.5（English）



Japan Science and Technology Agency (JST)

Video Teaching Material for Research Integrity Education

JST Portal on Research Integrity

- Provision of educational materials for research integrity (video teaching materials) and pamphlets
- Provision of educational materials and information on research integrity on websites

Japan Agency for Medical Research and Development (AMED)

CASEBOOK

- Collection and provision of cases of medical research misconduct and cases of undesirable research
- Collection and provision of cases which prevented research misconduct or undesirable action
- Distribution of a casebook through the RIO network and on websites

RIO NETWORK

- Establishment of a network for research integrity officers
- Promotion of the sharing and exchange of information through email magazines, symposiums, subcommittee activities, etc.

Symposium on Research Integrity

A symposium on research integrity is held every year in collaboration with JSPS, JST and AMED.

- 1st Symposium (November 29, 2017)

  "Thinking and Awareness" Research Integrity Education

- 2nd Symposium (November 2, 2018)

  Learn from advanced examples of research integrity education

- 3rd Symposium (September 9, 2019)

  So as not to cause research misconduct and what to do if research misconduct occurs

- 4th Symposium (December 15, 2020)

  Roles, qualities and training of key personnel who promote research integrity at research institutions

※ AMED conducts development of materials for research integrity education and research on strengthening research integrity as "Research and Development Program for Enhancement of Research Integrity", in addition to the activities related to "Research Integrity Promotion Program" above.

Initiatives for the Prevention of Misconduct in Research (1)

MEXT

1. Guidelines for Responding to Misconduct in Research (Adopted August 26, 2014 by MEXT) (2014 Guidelines)

- MEXT had been implementing necessary measures pertaining to responses by universities and other research institutions regarding research activities based on the "Guidelines for Responding to Misconduct in Research (compiled by the MEXT Council for Science and Technology's Special Committee on Misconduct in Research Activities in August 2006). （2006 Guidelines）
- In the past, there had been a strong sense of leaving to the individual researcher the responsibility for avoiding misconduct in research; from 2014, measures have been strengthened by having universities and other research institutions assume responsibility for preventing misconduct in research (formulation of 2014 Guidelines initiated through a decision by the MEXT Minister).
  - ・Initiatives to prevent misconduct (① Conducting education on research practices, ② Preservation and disclosure of research data)
  - ・Clarification of the management responsibilities of the organization (providing and disclosing rules and an organizational structure)
  - ・Sanctions for specific research misconduct and management responsibilities
  - ※Misconduct in research: specific misconduct (fabrication, falsification, plagiarism) and conduct that violates research integrity (duplicate submission, inappropriate authorship, etc.)

2. Organizational Arrangements for Promoting Research Integrity

- National Government: Office of Research Integrity, MEXT
- Funding Organization: Research Integrity and Auditing Office, JSPS
  Research Integrity Division, JST
  Division of Research Integrity and Legal Affairs, AMED

3. Status of Organizational Provision in the Research Institutions based on the 2014 Guidelines

- MEXT monitors the status of organizational provision in the research institutions based on the 2014 Guidelines by conducting periodical surveys of institutions regarding their implementation. When the surveys of the research institutions reveal inadequacies in organizational provision, guidance and advice is given such as by issuing administrative conditions.
- MEXT confirmed in each survey from 2016 to 2019 that all institutions to which the 2014 Guidelines are applied have rules and an organizational structure based on the guidelines.

(※) Act on Activation of the Creation of Science and Technology Innovation (Last Version: Amendment of Act No. 94 of 2018) (tentative translation)

（Ensuring Research Integrity）

Article24-2 (1) Researchers, having primary responsibility for ensuring research integrity and appropriate use of research funds, are to endeavor to conduct their research activities with integrity and propriety, by improving their own knowledge and understanding of research ethics.

(2) Research institutions are to take necessary measures that enable researchers to improve their own knowledge and understanding of research ethics, and are to endeavor to handle allegations of research misconduct (including inappropriate use of research funds; the same applies in the following paragraph) appropriately based on objective evidence.

(3) In light of the fact that research misconduct undermines public confidence in science and technology and hinders scientific and technological progress, the national government is to implement institutional improvement and the necessary policies to prevent research misconduct.

Initiatives for the Prevention of Misconduct in Research (2)

MEXT

4. Support for Initiatives in Research Institutions

(1) Initiatives for promoting research activities in research integrity (MEXT)

- Listing of publicized cases of misconduct (2015 -)
  - ・In cases where specific research misconduct has been confirmed, list to be prepared and publicized by MEXT
- Survey on the actual condition of organizational structures in research institutions (2016 -)
  - ・To promote the initiatives of research institutions by surveying and disclosing the status and characteristic efforts of other research institutions based on the 2014 Guidelines.

(2) Research Integrity Promotion Program (JSPS, JST, AMED)

JSPS, JST and AMED develop and disseminate teaching materials for research integrity education, improve them, and have also set up consultation service counters to prevent misconduct and to handle requests for consultation.

- Education for research integrity (2015 -)
  - ・A text version of "For the Sound Development of Science –The Attitude of a Conscientious Scientist- "【JSPS】
  - ・e-Learning Course on Research Ethics（eL CoRE）【JSPS】
  - ・Video teaching materials for Research Integrity Education (THE LAB)【JST】
  - ・Workshop on Research Integrity Education【JST】
  - ・Casebook to learn about RCR from misconduct in medical research 【AMED】
  - ・Case Book of HIYARI-HATTO（Minor Incidents）against Responsible Conduct of Research 【AMED】
- Information on research integrity (2015 -)
  - ・ Research Integrity Portal【JST】
- Personal connection of research integrity officers (2017 -)
  - ・ RIO NETWORK【AMED】

(※) APRIN e-Learning Program (APRIN: Association for the Promotion of Research Integrity)

MEXT supported for an inter-university collaborative education program which develops research ethics education programs and e-Learning materials suitable for the research environment in Japan while being compatible with international standards. APRIN has been updating and running this program, "eAPRIN", since FY2017.

- ・Courses with more than 120 modules are RCR (Responsible Conduct of Research), RSE (Research in the Secondary Education), ICF (Introduction of college and faculty), HSR (Human Subjects Research), BIO (Biosafety), ACU (Animal Care & Use), GCP, SEC (Security Export Control) and Reproducibility of Data etc.

(※) Websites

MEXT	https://www.mext.go.jp/a_menu/jinzai/fusei/index.htm
JSPS	https://www.jsps.go.jp/j-kousei/index.html
JST	https://www.jst.go.jp/researchintegrity/
	https://www.jst.go.jp/kousei_p/en/ (Research Integrity Portal)
AMED	https://www.amed.go.jp/kenkyu_kousei/index.html
APRIN	https://edu.aprin.or.jp/