

# Guidelines for Responding to Misconduct in Research

Adopted August 26, 2014

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

(MEXT)





# Guidelines for Responding to Misconduct in Research

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## About these Guidelines

Guidelines for Responding to Misconduct in Research have been adopted as follows and are here made public.

August 26, 2014

Hakubun Shimomura, Minister of Education, Culture, Sports, Science and Technology

## **Guidelines for Responding to Misconduct in Research**

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### **Introduction**

#### **(Background and Objectives of the Guidelines)**

The purpose of this document is to set out a basic policy on misconduct in research, to encourage initiatives by researchers, the scientific community and research institutions to prevent such misconduct, and to present guidelines on measures to be taken in advance by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), research funding organizations, and institutions conducting research that will enable each of these institutions to deal appropriately with misconduct.\*<sup>1</sup>

Misconduct in scientific research violates the very essence of science, which is a careful, continual pursuit of truth aimed at creating new knowledge. Such misconduct is a disgrace that cannot be tolerated, since it undermines public faith in science and hinders scientific progress. A researcher who betrays science in this way negates the significance of his or her own existence as a researcher, causing loss of trust in the scientific community.

Everyone involved in scientific research must be aware that their activity is dependent on the trust of and mandate from the public, and that any diminution or loss of that trust and mandate undermines the very foundation of scientific research. The need to ensure the propriety of research activities is all the stronger when research and development are conducted using public funds, received even in the face of severe budgetary constraints based on the trust of and mandate from the public as an investment in the future.

Scientific research today is becoming increasingly specialized, drawing on ever more complex and diverse research methods and techniques. As scientific results and knowledge grow exponentially it is difficult even for researchers themselves to keep abreast of each other's research activities, making it more important than ever for researchers to carry out their work properly.

For these reasons, the Council for Science and Technology Special Committee on Scientific Misconduct drew up the document "Toward Guidelines for Responding to Misconduct in Research: Report of the Special Committee on Scientific Misconduct" (August 8, 2006; hereinafter referred to as the "Special Committee Report") and MEXT demanded that all relevant institutions take stringent measures based on this report.

Even so, cases of misconduct in research continued unabated and have recently received major coverage as an issue facing society. Against this background, MEXT in August 2013 established a task force on research misconduct and misuse of research funds, which carried out intensive studies on countermeasures and made the results public the following month.

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\*1 See the *Guidelines for Supervision and Auditing of Public Research Funds at Research Institutions* (adopted by MEXT February 15, 2007; revised February 18, 2014) on proper management of public research funds.

Based on the task force report, a consultative council was set up in the Science and Technology Policy Bureau to study ways of revising and improving the implementation of the existing Guidelines. The members conducted extensive studies centering on how research institutions could apply their organizational strength to deal with research misconduct, and in particular to prevent it from occurring. Sharing the common awareness that following proper procedures in research activities helps to ensure the quality of research in Japan and increase trust in science, they considered how best to revise and improve implementation of the Special Committee Report and measures for enhancing education on responsible conduct of research(RCR). The results of their deliberations were then released on February 3, 2014.

The new Guidelines have been drawn up to reflect these various studies and deliberations. In principle, they adhere to the basic recognition in the Special Committee Report that dealing with the problem of research misconduct should be a self-correcting process that relies on the self-discipline of researchers themselves and voluntary efforts by research institutions and the scientific community. However, up to now there has been a strong tendency to leave things to the responsibility of individual researchers alone. The basic policy of these new Guidelines, therefore, is to strengthen the approach by assigning greater responsibility for preventing misconduct to research institutions. At the same time, however, the emphasis on researcher self-discipline and the voluntary efforts of the scientific community is retained.

These Guidelines ask that research institutions and research funding organizations take more proactive and effective measures to deal with the issue of misconduct in research activities. For example, research institutions are expected to devise appropriate mechanisms for dealing with misconduct, and research funding organizations are expected to reflect these Guidelines in application guidelines for competitive funding, research commission contracts and other documents.

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### **(Applicability)**

These Guidelines shall take effect as of April 1, 2015. Section 3 and Section 4 shall apply to all research activities carried out from the initial budget of fiscal 2015 (including continuing projects) by funding from the Ministry of Education, Culture, Sports, Science and Technology budget or by special budgetary measures.

The period through March 31, 2015, is considered as an intensive reform period for application of these Guidelines, during which relevant institutions are urged to make intensive preparations toward their effective implementation.

### **(Definitions of Terms)**

Terminology used in these Guidelines is defined as follows.

#### **(1) Competitive funding**

Research funds distributed based on open calls for proposals, chiefly consisting of competitive funds allocated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), or by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), or by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), or by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).



Any institution (university, specialized vocational school, inter-university research institute, independent administrative agency, national or local government-operated testing and research agency, corporation, Public Interest Incorporated Association, Public Interest Incorporated Foundation, General Incorporated Association, General Incorporated Foundation, former public interest corporation, etc.) whose affiliated researchers conduct research funded by the above-defined competitive funding, by administrative cost grants to national university corporations or to independent administrative agencies under MEXT jurisdiction, by private school subsidies or other funding for basic operating expenses, or by other funding budgeted or specially allocated by MEXT.

(3) Research funding organization

An institution (MEXT\*<sup>2</sup> or independent administrative agency under MEXT jurisdiction) allocating competitive funding (as defined in (1) above) to research institutions (as defined in (2) above).

(4) Research institutions and funding organizations

Includes both research institutions (as defined in (2) above) and research funding organizations (as defined in (3) above).

(5) Research funding organization, etc.

An institution (MEXT\*<sup>3</sup> or independent administrative agency under MEXT jurisdiction) allocating competitive funding, funding for basic operating expenses, or other funding budgeted or specially allocated by MEXT to research institutions (as defined in (2) above).

(6) Administrative conditions

In cases when MEXT determines based on an investigation that there are problems with an institution, such as inadequate organizational structure, administrative conditions are conditions set by MEXT for continued granting of competitive funding, indicating to a research institution matters requiring remediation and the deadline for implementing such remediation.

**(Note)**

The provisions under each section of these Guidelines must be implemented in the form of practical measures that take into account the nature and scale of each institution along with costs and resources. However, the Guidelines may be applied as a clearly designated part of existing measures in the case of certain companies and universities. These include companies that have already devised rules or regulations and are implementing measures as part of internal control system provision based on the Companies Act (Act No. 86 enacted in 2007), etc., or universities with an existing system of compliance-related rules or regulations that encompasses the provisions of

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\*2 In the context of the definition of “Research funding organization,” MEXT refers to each of the MEXT institutions and divisions responsible for competitive funding.

\*3 In the context of the definition of “Research funding organization, etc.,” MEXT refers to each of the MEXT institutions and divisions responsible for competitive funding or funding for basic operating expenses.

these Guidelines.



## Section 1. Basic Idea of Misconduct in Research

### 1. What is Research?

Research is the act of constructing knowledge systems based on the research accomplishments by the predecessors, making use of facts and data obtained through observation and experiment, and creating new knowledge and insights based on the researcher's own critical reflection, inspiration and ideas. It is a process in which scientific research progresses by means of a cycle of hypothesis and verification; while a hypothesis may later be rejected, it must not be forgotten that the hypothesis itself is something that can have scientific value.

### 2. What is Publication of Research Results?

Publication of research results is the act of making public the results obtained from research, while presenting data and materials that can be objectively verified, so that the scientific community can examine and judge those results. For the intellectual resources shared by all human beings to be built up soundly, scientific research, a verification system, premised on the integrity of the people carrying out the research and consisting of mutual examination and judgment among researchers, is essential. The publication of research results means participation in this verification system. In many cases it takes the form of research paper publishing, and it is largely for the sake of this verification that there are certain fixed rules about writing such papers (presentation of data and materials, logical development, indication of conclusions, etc.).

### 3. What is Misconduct in Research?

Research misconduct goes against research integrity, distorts the essence and meaning of 1. and 2. above, and hinders the normal process of communication in the scientific community. Specifically, misconduct consists of fabrication, falsification (manipulation) or

guidelines on how to respond when such conduct is disclosed. Such clarification should be provided in academic societies' ethical rules and codes of conduct and in journal submission rules and the like, based on cases in each research field where misconduct was suspected, as well as on international trends.

It should be noted that for earlier hypothesis or research results to be overturned by new research is the nature of research work, so that even if research results obtained legitimately by proper scientific procedures prove to be wrong, this does not amount to misconduct.

#### **4. Basic Stance Regarding Misconduct in Research**

In the sense that misconduct in research violates the true nature of research activities and publication of results, it is a betrayal of science itself, undermines faith in science, and hinders scientific progress, and can therefore in no way be tolerated regardless of the amount of research funds involved or their provenance. Moreover, researchers guilty of misconduct negate the significance of their own existence as researchers, leading to self-destruction.

These matters are to be understood not only by each individual researcher but by the scientific community, research institutions, and research funding organizations, who must take a strict stance against misconduct.

While it is of course necessary to make rigorous efforts to combat misconduct, not only must academic freedom not be violated, but research cannot be allowed to atrophy, such as by suppressing the publication of bold hypothesis. Rather it must be remembered that the real intent of countering misconduct is to invigorate research.

#### **5. Voluntary Self-Discipline by Researchers and the Scientific Community and Management Responsibility of Research Institutions**

##### **(1) Voluntary self-discipline by researchers and the scientific community**

Dealing with misconduct in research and its prevention is a matter of research integrity and responsibility to society. It must be approached first of all as an issue requiring self-correction based on the voluntary efforts of researchers themselves and of the scientific community and research institutions.

Efforts to strengthen voluntary self-discipline and self-correction must be recognized as an important issue at all levels. In a university, for example, such efforts would apply at the laboratory and unit levels, as well as at the department and faculty levels.

While maintaining this kind of research self-discipline as a premise, the scientific community as a whole must exercise the extremely important duty of managing quality throughout the process of building up intellectual resources shared by all human beings. This entails rigorous examination and evaluation of the results published by each researcher.

As part of this management, the senior researchers responsible for fostering young researchers must understand voluntary self-discipline and properly educate young researchers and students about it—which also requires self-discipline on the part of the senior researchers themselves. All researchers should bear in mind that this

understanding of voluntary self-discipline by senior researchers, young researchers, and students is a key premise for carrying out human resource development and training through research activities. When multiple researchers conduct joint research and coauthor papers, the need for mutual clarification of the roles and responsibilities of each researcher must be seen as a major precondition for conducting research, and must further be recognized as an issue of researcher self-discipline.

(2) Management responsibility of research institutions

It is of course assumed that researchers must understand the nature of research and that they master good practices and research integrity based thereon. It would seem, however, that a significant number of young researchers and students aiming to become researchers have not received adequate training regarding the responsible research practices. And many researchers who should be providing instruction in this regard seem to lack adequate awareness of their responsibility. Other factors pointed to as potential contributors to research misconduct are the rapid intensification of the competitive environment, the splintering of research fields into small divisions and deepening of specialization, and the growing complexity and diversity of research organizations, as a result of which it has become more difficult for self-correction of the problems to take place in the scientific community.

Such potential contributors have, moreover, been supported by the strong tendency up to now to rely solely on the self-discipline and responsibility of individual researchers to deal with prevention of misconduct. From now on, therefore, while retaining the emphasis on the self-discipline and the voluntary efforts of the scientific community, it will be necessary to strengthen the approach by assigning greater responsibility for preventing misconduct to research institutions, so as to create an environment in which misconduct is discouraged. In research institutions

## **Section 2. Initiatives for Preventing Misconduct**

### **1. Provision of Environment Discouraging Misconduct**

(1) Enhancing researcher integrity by conducting education on responsible research practices

To prevent misconduct and ensure that responsible research is carried out, it is important first of all that research institutions enhance researcher integrity by providing effective education to instill the standards for ethical practice demanded of those who carry out research. In implementing such education, institutions must not only teach the code of conduct for research, including the basic responsibilities of researchers and the required attitude toward research activities, but also ensure that researchers obtain and master knowledge and skills relating to good research practices. These vary with the research field, covering such matters as keeping and storing the experimental and observation notes or other media for recording research data, preservation of test samples and reagents, and clarifying the roles and responsibilities of each researcher when preparing research papers.

Each research institution carrying out education on responsible research practices needs to provide the education not only to its own affiliated researchers but to personnel with future intentions of becoming researchers, those providing research assistance, and a wide range of other personnel involved in research activities. Even in cases where, for example, persons from different countries, researchers from private firms, or exchange students take part temporarily in joint research at a research institution, that institution must enable them to receive education in research integrity.

Moreover, as industry-academia-government collaboration deepens, the opportunities for students or others to become involved in joint research or technology transfer are growing, making it important that not only university personnel and researchers, but also students taking part in research activities, gain the discernment necessary to deal with issues that can actually arise. To this end they should also obtain knowledge about such matters as conflict of interest and nondisclosure obligations.

Research institutions should accordingly set up the necessary organizational structure, such as appointing a RCR education officer.\*4 In addition, they should provide regular RCR education for their affiliated researchers, research assistants, and a wide range of other personnel involved in research activities, so as to reinforce and renew their personnel's knowledge of research integrity. Researchers in a position to direct research activities by students and young researchers should themselves actively take part in initiatives like these for enhancing self-discipline and self-correction. The research institution as a whole should require such

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\*4 See Section 3.2, "Providing and Disclosing Rules and an Organizational Structure in Research Institutions and Research Funding Organizations" regarding the appointing of a RCR education officer.

supervising researchers to take part in regular programs on RCR education in order to extend RCR education program throughout the entire organization and raise awareness of responsible practices among researchers.

In universities in particular, to ensure proper awareness of responsible practices by students as well as researchers, each university should provide students with RCR education geared to the school's education and research objectives and to the nature of each field of study. Specifically, graduate students should be given suitable opportunities, both inside and outside the curriculum, to acquire knowledge and skills relating to research integrity and tailored to their field of study. From the undergraduate stage as well, arrangements should be made so that students can receive RCR education enabling them to acquire basic learning in research integrity based on the characteristics of their field of study.

In research funding organizations, all researchers taking part in research receiving competitive funding or other funding by the organization should be required to take a RCR education program, and their completion of such a program should be confirmed by presentation of a certificate or other means. The organization should also take other initiatives toward furthering and raising the level of RCR education, including providing support to enhance the knowledge and abilities of the RCR education officer.

Matters to be implemented by research institutions

- Set up the necessary organizational structure, such as appointing a RCR education officer, and provide regular RCR education to the wide range of personnel involved in research activities.

Matters to be implemented by universities

- To ensure proper awareness of responsible practices by students, provide them with RCR education geared to the school's education and research objectives and to the nature of each field of study.

Matters to be implemented by research funding organizations

- All researchers taking part in research receiving competitive funding or other funding by the organization should be required to take a RCR education program, and the organization should take initiatives toward furthering and raising the level of RCR education, including providing support to enhance the knowledge and abilities of the RCR education officer.

(2) Preserving and disclosing research data in research institutions for a set period

As noted in Section 1.2, "Publication of Research Results," publication of research results is the ~~ack~~ ~~area~~

for a predetermined time period, managing it properly and disclosing it ensures the verifiability of research results by a third party, discourages improper conduct, and provides a means of self-defense if a researcher is suspected of wrongdoing. In addition it is beneficial in sharing research results broadly among the scientific community.

For these reasons research institutions need to adopt rules requiring researchers to keep research data for a set period and to disclose the data as needed, and these rules need to be enforced properly and effectively. The specific research data to be preserved or disclosed, the time period, method, and to whom the data is to be disclosed can be decided based on the nature of the data and of the research field.

Matters to be implemented by research institutions

Draw up rules requiring researchers to preserve research data for a set period and to disclose the data as needed, and enforce the rules properly and effectively.

## **2. Listing and Publicizing Misconduct Cases**

As noted in Section 3.4, “Investigating Reported Cases of Specific Research Misconduct,” when it has been determined that specific research misconduct has occurred, the results of the investigation are to be made public promptly (the term “specific research misconduct” used in this paragraph refers to any of the specific research misconduct defined in Section 3.1). For cases where specific research misconduct has been confirmed, MEXT will make public a list outlining the instances of misconduct and indicating the responses by the research institutions and research funding organizations. The expectation is that this will help discourage misconduct by those seeing the list and will be useful when misconduct is disclosed.

Matters to be implemented by MEXT

For cases where specific research misconduct has been confirmed, make public a list outlining the instances of misconduct and indicating the responses by the research institutions and research funding organizations.



### **3. Responding to Specific Research Misconduct**

#### **1. Applicable Types of Misconduct in Research, etc.**

The research activities, researchers, and misconduct to which this section applies are as follows.

##### (1) Applicable research activities

The research activities to which this section applies are all those receiving competitive funding, administrative cost grants to national university corporations or to independent administrative agencies under MEXT jurisdiction, private school subsidies or other funding for basic operating expenses, or other funding budgeted or specially allocated by MEXT.

##### (2) Applicable researchers

The researchers to whom this section applies are researchers conducting the research activities defined in (1) above.

##### (3) Applicable misconduct (specific research misconduct)

The misconduct to which this section applies is the fabrication, falsification, or plagiarism of data or research findings, etc., indicated in a submitted research paper or other published research results (hereinafter “specific research misconduct”), either willfully or due to gross neglect of the basic duty of care expected of a researcher.\*5

###### (a) Fabrication

Making up data or research results, etc.

###### (b) Falsification

Manipulating research materials, equipment, processes, or change data or results obtained from research activities.

###### (c) Plagiarism

Appropriating the ideas, analysis, research paper(s), or words of other researchers or giving appropriate credit to the researchers or giving appropriate credit to the researchers.

Note that in drawing up rules concerning research activities at the research institution, there is no need to limit the scope of the research activities. For example, research performed on the basis of a grant from the Ministry of Education, Culture, Sports, Science and Technology, other government agencies, or other organizations is also included.

\*5 The “Guidelines on the Proper Implementation of Research Activities” (Ministry of Education, Culture, Sports, Science and Technology, 2005; revised October 17, 2012) address the issue of research misconduct. If there is determined to be “fabrication, falsification, or plagiarism” in a research report funded by competitive funding, administrative cost grants, or other funds to be returned and depending on the severity of the misconduct, the research institution may be required to return the funds and suspend eligibility for further funding.

company should be included among applicable research activities regardless of the type of funding.

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## 2. Providing and Disclosing Rules and an Organizational Structure in Research Institutions and Research Funding Organizations

A research institution or research funding organization should provide the appropriate rules, mechanisms, and organizational structure (including investigation procedures and methods) for responding when specific research misconduct as described in this section is suspected. When devising rules and an organizational structure, it is of particular importance to (i) clarify the persons responsible for responding to misconduct in research and define their roles and scope of responsibility, (ii) ensure confidentiality of the people involved, including complainants, and clarify specific procedures to be followed after an allegation, (iii) establish up rules requiring reports—including notification of any decision to investigate a suspected case of specific research misconduct—to be made to the relevant research funding organization, etc. and to MEXT, and (iv) prescribe investigation results to be made public in suspected cases of specific research misconduct. Progress in developing rules and an organizational structure is to be made public inside and outside the research institution or research funding organization.

In providing an organizational structure for responding to misconduct, a research institution should appoint in each department a RCR education officer with a certain

- As noted earlier, a research institution should set up the necessary organizational structure such as appointing a RCR education officer and should provide regular RCR education to all personnel involved in research activities.

### 3. Receiving and Investigation of Specific Research Misconduct

#### 3-1. Organizational Structure for Receiving Allegations

- (a) A research institution or research funding organization shall set up a contact point for receiving allegations about specific research misconduct (whether from personnel within the institution or from someone outside; the same applies hereinafter). The contact point is the person or office to whom the allegation is not explicitly made. This does not necessarily mean setting up a new position or organization. Moreover, it shall be possible to delegate the receipt of allegations to a firm within the institution in order to ensure the objectivity and transparency.
- (b) A research institution or research funding organization shall decide the name of the contact point, its location, contact information, and contact methods, etc., and shall make this information known inside and outside the organization.
- (c) A research institution or research funding organization shall set up the contact point and shall be free to choose the contact method freely, such as in writing, by telephone, by fax, by e-mail, by video, by person, etc.
- (d) A research institution or research funding organization shall take care to ensure that the persons receiving allegations or conducting investigations and confirmations of fact (hereinafter "investigations") do not become involved in the

shall be forwarded to the research institution or research funding organization corresponding to the investigating organization in 4-1, “Investigating Organization.” The organization to which the allegation is forwarded shall treat it as if the allegation had been made to that research institution or research funding organization. If based on 4-1, “Investigating Organization,” there are other research institutions or research funding organizations that might need to conduct an investigation in addition to the organization to which the allegation was made, the organization receiving the allegation shall notify such organizations of the allegation.

- (e) If an allegation is made in writing or by other means that would preclude the complainant from knowing whether it was received, the research institution or research funding organization shall notify the complainant that his or her allegation was received (applies only to non-anonymous complainants, provided, however, that a complainant shall be treated as non-anonymous if his or her name becomes known before the results of the investigation become clear; the same applies hereinafter).
- (f) In the case of a consultation where the intention to make an allegation is not explicit, the organization receiving the consultation shall, depending on the contents, check and examine the case as for a regular allegation. If there is deemed to be sufficient reason to make an allegation, the organization shall confirm with the consulter whether he or she intends to make an allegation or not.
- (g) In the case of allegations or consultations declaring that someone intends to commit specific research misconduct, or that someone was asked to commit such misconduct, the organization receiving the allegation or consultation shall check and examine the case, and if there is deemed to be sufficient reason, shall issue a warning to the respondent. Note that when the organization receiving an allegation or consultation is not the research institution with which the respondent is affiliated, the organization may forward the matter to the research institution of the respondent. If an organization that is not the research institution with which the respondent is affiliated issues a warning to the respondent, that organization shall notify the reason and details of the warning to the research institution of the respondent.

### **3-3. Treatment of Complainants and Respondent**

- (a) When receiving an allegation, proper measures shall be taken to protect the confidentiality of the contents and the complainant, such as by holding consultations in a private room and by ensuring that telephone calls, email and other information are not heard or seen by persons other than the staff handling allegations (the term “complainant” used here in 3-3, “Treatment of Complainants and Respondent” includes the consulter in 3-2, “Handling of Allegations” (f) and (g) above).
- (b) To prevent information being leaked to persons outside the investigation against the will of the complainant and respondent, a research institution or research funding organization shall hold all parties involved to an obligation of

confidentiality. Such confidentiality shall apply to the complainant bringing an allegation to its contact point, the respondent, details of the allegation, and details of the investigation, up until the investigation results are made public.

- (c) If a case under investigation is leaked, the research institution or research funding organization shall, with the consent of the complainant and respondent, be able to provide a public explanation of the case even though the investigation is still ongoing. If the complainant or the respondent was responsible for the leak, however, that person's consent shall not be needed.
- (d) To prevent allegations being lodged out of malice (hereinafter meaning for the purpose of damaging the respondent, or of hindering research being conducted by the respondent, or otherwise solely to cause some kind of harm to the respondent or to disadvantage the institution or organization with which the respondent is affiliated), the research institution or research funding organization shall make it known in advance inside and outside the organization that as a general rule only allegations filed non-anonymously will be accepted, that a scientifically rational reason must be indicated for raising an allegation of misconduct, that the complainant may be asked to cooperate in the investigation, and that if the investigation determines that the allegation was made out of malice, the complainant may be subject to having his or her name made public, to dismissal, or to criminal charges.
- (e) Provided an allegation is not determined to have been made out of malice, the research institution or research funding organization shall not disadvantage the complainant such as by dismissal, demotion, salary reduction or other sanction, simply for having brought an allegation.
- (f) A research institution or research funding organization shall not, without a legitimate reason, disadvantage the respondent such as by limitation or prohibition of research activities, dismissal, demotion, salary reduction or other sanction, simply because an allegation was brought.

#### **3-4. Handling of Cases Not Received As Allegations**

- (a) In the case of consultations where the intention to make an allegation is not explicit, as per 3-2, "Handling of Allegations" (f), even when no intention to issue an allegation is indicated, an investigation of the case may be initiated at the discretion of the research institution or research funding organization.
- (b) When specific research misconduct is suspected by an academic society or others in the scientific community or by the media, the case may be treated in a similar way as if an allegation had been made to the research institution of the person or persons suspected of specific research misconduct.
- (c) If suspicions of specific research misconduct are posted on the Internet and the research institution of the person or persons suspected of the misconduct has identified such Internet postings, the case may be treated in a similar way as if an allegation had been made to that research institution. (However, this applies only if the postings clearly indicate the researcher or group suspected of specific research misconduct along with the nature of the misconduct and description of the case, and

a scientifically rational reason is indicated for considering it as misconduct.)

#### **4. Investigating Reported Cases of Specific Research Misconduct**

##### **4-1. Investigating Organization**

- (a) If an allegation of specific research misconduct is made involving a researcher affiliated with a research institution, as a general rule that research institution shall investigate the reported case (hereinafter this includes someone not affiliated with any research institution but conducting research making use of the facilities and equipment of a specific research institution).
- (b) If the respondent is affiliated with multiple research institutions, as a general rule the investigation shall be carried out jointly by the multiple research institutions concerned, with the central role being played by the research institution where the respondent conducted most of the research activities involved in the allegation. The research institution to play the central role and the other research institutions to participate in the investigation may be decided by the relevant institutions taking into account the nature of the case, etc.
- (c) If the allegation concerns research conducted at a different research institution than the one with which the respondent is currently affiliated, the reported case shall be investigated jointly by the current research institution of affiliation and the one where the research in question was carried out.
- (d) If the respondent has already left the research institution where the research involved in the allegation was conducted, the reported case shall be investigated jointly by the research institution with which the respondent is currently affiliated and the one the respondent has left. If, after leaving the previous research institution, the respondent is no longer affiliated with any institution, the reported case shall be investigated by the research institution with which the respondent was affiliated when the research in question was carried out.
- (e) A research institution investigating a reported case as per (a) through (d) above shall conduct the investigation in good faith regardless of whether the respondent is currently affiliated with that institution or not.
- (f) If the respondent was not affiliated with any research institution at the time the investigation was launched nor at the time the research involved in the allegation was conducted, or if the research funding organization that allocated funds for the research in question specifically acknowledges that it is extremely difficult for the research institution responsible for the investigation to carry it out, the research funding organization shall conduct the investigation. In such a case the research institution that normally would be conducting the investigation shall, when asked for cooperation by the research funding organization, provide such cooperation in good faith.
- (g) A research institution may ask another institution or members of the scientific community such as academic societies to conduct an investigation on its behalf or to cooperate in conducting an investigation. Similarly, a research funding organization may ask organizations or members of the scientific community such as

academic societies in the same field as that of the research in question to investigate on its behalf, or to cooperate in an investigation. In such a case 3-3, “Treatment of Allegation and Respondent” (a) to (c) and Section 4, “Investigating Reported Cases of Specific Research Misconduct” shall apply to the commissioned organization or organizations cooperating in the investigation.

#### **4-2. Organizational Structure and Methods Used in Investigating Allegations**

##### **(1) Preliminary investigation**

- (a) The organization conducting the investigation as per 4-1, “Investigating Organization” (hereinafter “Investigating Organization”) shall, upon receiving an allegation, promptly launch a preliminary investigation to determine the reasonableness of the allegation and whether it can be investigated properly. Investigating the reasonableness of the allegation entails assessing the likelihood that the reported instance of specific research misconduct occurred and the logicity of the scientifically rational reason indicated in the allegation. Investigating whether the allegation can be investigated properly entails assessing whether the length of time between the publication of the research involved in the allegation and the allegation itself exceeds either (i) a reasonable period of time, considering the nature of research in each field, for preserving raw data, experimental and observation notes, test samples, reagents and other items that would enable after-the-fact verification of research results, or (ii) the retention period for research data set by the research institution of the respondent. The investigating organization may establish an investigative committee as in (2)(b) below and have it conduct a preliminary investigation.
- (b) If a preliminary investigation involves any research paper(s), etc., withdrawn before a formal allegation was brought, the investigating organization should examine the situation, including the background and circumstances of the withdrawal, and determine whether or not the matter should be investigated as an instance of specific research misconduct.
- (c) If as a result of the preliminary investigation the investigating organization determines that the matters in the allegation should be investigated more thoroughly, a formal investigation shall be conducted. The investigating organization’s rules should stipulate in advance the approximate time limit between the receipt of an allegation and the decision whether to launch a formal investigation (e.g., up to 30 days).
- (d) If the investigating organization decides not to conduct a formal investigation, this decision shall be notified to the complainant along with the reasons. In such cases the investigating organization shall preserve the materials, etc. involved in the preliminary investigation and shall disclose them to the research funding organization, etc. involved in the case and to the complainant if so requested.

##### **(2) Formal investigation**

###### **(a) Notifications and reports**

- i. If the investigating organization decides to launch a formal investigation, it shall

notify this decision to the complainant and to the respondent and ask for their cooperation in the investigation. If the respondent is affiliated with an organization other than the investigating organization, notification shall be made also to the organization of the respondent. In carrying out the investigation of the allegation, every precaution shall be taken not to allow the complainant to be identifiable by the respondent or those outside the investigation without the consent of the complainant.

- ii. The investigating organization shall inform the research funding organization, etc. involved in the matter and MEXT that a formal investigation will be carried out.
- iii. The investigating organization's rules should stipulate in advance the approximate time limit between the decision to launch a formal investigation and the start of the investigation (e.g., up to 30 days).

(b) Organizational structure for the investigation

- i. In conducting a formal investigation, the investigating organization shall form an investigative committee including outside experts not affiliated with the investigating organization. At least half the members of this investigative committee shall be outside experts, and all members shall be persons having no direct conflict of interest with the complainant or the respondent (e.g., having no interests in patents or technology transfer that may result from the research suspected of specific research misconduct if it should prove to be as described in the associated research paper(s)).
- ii. When the investigating organization forms an investigative committee, it shall indicate the member names and affiliations to the complainant and the respondent. In response, the complainant or respondent shall be able to raise an objection to any of the members by the deadline set in advance by the investigating organization. If an objection is raised, the investigating organization shall examine the details, and if the objection is deemed to be reasonable the member shall be replaced, and notification to this effect shall be made to the complainant and the respondent.
- iii. The position of the investigative committee in the investigating organization shall be defined by the investigating organization.

(c) Investigation method and authority

- i. The formal investigation shall be carried out by close examination of the research paper(s), experimental and observation notes, raw data, and other materials relating to the research in question, as well as interviews with the parties involved and requests to replicate experiments, etc. In so doing, the investigators must hold hearings to give the respondent an opportunity to offer a defense.
- ii. In investigating the likelihood that the alleged specific research misconduct occurred, the investigative committee may ask the respondent to demonstrate reproducibility by such means as replicating experiments, or the investigative committee may determine that replication is necessary following a request by the respondent. In such cases, experiment replication shall be carried out within the



scope deemed by the investigating organization to be reasonably necessary with regard to the time and resources required (including instruments, costs, etc.). Replication shall be conducted under the direction and supervision of the investigative committee.

iii. The investigating organization shall decide the investigative authority of the investigative committee regarding i. and ii. above and shall notify the persons involved. The complainant, the respondent and other persons concerned shall cooperate in good faith with the investigation by the investigative committee based on the above investigative authority. If an investigation takes place in an organization outside the investigating organization, the investigating organization shall request cooperation by that organization. The organization whose cooperation is requested shall provide such cooperation in good faith.

(d) Research activities covered by the investigation

In addition to the research activities related to the allegation, the investigative committee may decide to include in the investigation other research activities carried out by the respondent if deemed relevant to the investigation.

(e) Preservation of evidence

In conducting the investigation, the investigating organization shall take measures to preserve materials that might be used as evidence regarding the research activities subject to the allegation. If the research in question was conducted at a research institution that is not the investigating organization, that research institution shall on request by the investigating organization take measures to preserve materials that might be used as evidence regarding the research activities subject to the allegation. Research activities by the respondent shall not be restricted, provided that they do not affect these measures.

(f) Interim report on the investigation

When the investigating organization is a research institution, on request by the research funding organization, etc. providing budgeted or specially allocated funds for the research subject to the allegation, it shall submit an interim report on the investigation, even if the investigation is not yet completed, to the research funding organization, etc.

(g) Protection of research and technological information in the investigation

In conducting the investigation, all due care shall be taken not to leak information beyond the scope necessary for conducting the investigation. Such information includes data, research paper(s), or other information covered by the investigation that has not yet been made public and whose confidentiality should be maintained from a technical or research perspective.

### **4-3. Findings**

(1) Findings

(a) The investigating organization's rules should stipulate in advance the approximate time limit between the start of the investigation and the summarizing of findings by the investigating organization (e.g., up to 150 days).

(b) The investigative committee shall, within the approximate time limit as per (a)

above, summarize the findings of the investigation, giving its determination as to whether specific research misconduct occurred or not, the nature of the misconduct if any, the persons involved in the misconduct and the degree of their involvement, and the roles of each of the authors involved in any associated research paper(s) with regard to the research activities as well as the paper(s) themselves.

(c) If it is determined that specific research misconduct did not take place and the investigation shows that the allegation was lodged out of malice, the investigative committee shall at the same time issue this as its finding. In making such a finding, the investigators shall give the complainant the opportunity to offer a defense.

(d) When the findings as per (b) and (c) above have been completed, the investigative committee shall immediately issue a report to the investigating organization by which it was set up.

(2) Accountability regarding suspicion of specific research misconduct

If during the investigation by the investigative committee the respondent wishes the ~~the~~ ~~4~~ % BIR

notes, test samples, reagents and other items is due to having exceeded a reasonable period of time, considering the nature of research in each field, for preserving such items, or the retention period set by the research institution with which the respondent was affiliated at the time of the research in question.

(c) The degree of accountability in (2) above and the key components of research that should normally exist as in (b) above shall be left to the discretion of the investigative committee based on the nature of the research field.

(4) Notification and reporting of investigation results

(a) The investigating organization shall promptly notify the investigation results (hereinafter to include the findings) to the complainant and the respondent (hereinafter to include persons other than the respondent determined to have been involved in the specific research misconduct). If the respondent is affiliated with an organization other than the investigating organization, notification of the results shall be made also to the organization of the respondent.

(b) In addition to (a), the investigating organization shall report the results to the research funding organization, etc. involved in the matter and to MEXT.\*6

(c) If it is determined that the complaint was lodged out of malice, the investigating organization shall notify the organization with which the complainant is affiliated.

(5) Appeal filing

(a) A respondent found to have committed specific research misconduct shall be able to file an appeal to the investigating organization by the deadline set in advance by the organization. It shall not be possible, however, to file repeated appeals for the same reason, even if it is within the deadline.

(b) If the complainant is found to have lodged the allegation out of malice (including cases in which malice was determined during the investigation following an appeal by the respondent [as per (1) (c) above]), an appeal may be filed by the complainant in line with (a) above.

(c) The investigation for an appeal shall be conducted by the investigative committee. In that examination, if the nature of the appeal necessitates a decision requiring new expertise, the investigating organization shall replace or add new investigative committee members, or have the investigation carried out by other persons in place of the investigative committee. This shall not apply, however, if the investigating organization deems there to be no sufficient reason requiring the makeup of the investigative committee to be changed.

(d) In the case of an appeal filed by the respondent after specific research misconduct was determined, the investigative committee (including the persons chosen to replace the initial investigative committee members as per (c) above; the same applies throughout (5) "Appeal filing") shall promptly decide whether to conduct a new investigation of the case, taking into consideration the details of the appeal

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\*6 See Reference 2 for the items to be incorporated in the report when reporting the results to the research funding organization, etc. and to MEXT.



investigation.

- (b) When it is determined that specific research misconduct has not occurred, the investigating organization shall not as a general rule make the results of the investigation public. If, however, the case under investigation has been leaked or if unintentional errors in any research paper(s) or other forms of publication have been uncovered, the results of the investigation shall be made public. If it is determined that the allegation was lodged out of malice, the results of the investigation shall be made public.
- (c) The types and content of the investigation results to be made public as per (a) and (b) above shall be prescribed by the investigating organization.

(7) Sanctions taken against the complainant and the respondent

- (a) If specific research misconduct was found to have occurred, the organizations of persons determined to be responsible for the misconduct shall take suitable measures regarding such persons based on their internal rules and shall recommend the withdrawal of any research paper(s) or other forms of publication connected with the misconduct. Hereinafter, “persons determined to be responsible for the misconduct” refers collectively to persons determined to have committed the misconduct, as well as persons whose commitment to the specific research misconduct was not determined but who were found to bear prime responsibility as co-authors of any research paper(s) or other forms of publication connected with the misconduct.
- (b) If the allegation was found to have been lodged out of malice, the complainant’s organization shall take suitable measures regarding the complainant based on its internal rules.

## **Section 4. Sanctions for Specific Research Misconduct and Management Responsibility**

### **1. Sanctions on Researchers and Research Institutions for Specific Research Misconduct**

If a research funding organization, etc. receives notice from an investigating organization of the decision to launch a formal investigation or other such reports concerning specific research misconduct as defined in the previous section, the funding organization relating to the case shall, as detailed below, urge the investigating organization to promptly and fully elucidate the case and shall request related organizations to take necessary remedial measures based on the investigation results submitted by the investigating organization. If specific research misconduct as defined in the preceding section is confirmed, the research funding organization, etc. shall impose the following sanctions on the researchers and research institutions involved.

- (a) If a research funding organization, etc. receives notice from an investigating organization of the decision to launch a formal investigation or other such reports, the funding organization shall issue instructions to the investigating organization as needed so that the investigation can be implemented properly, and shall urge the investigating organization to fully elucidate the case and promptly complete the investigation.
- (b) If in the process of the investigation the research funding organization, etc. receives a report from the investigating organization that some of the alleged specific research misconduct was found to have occurred, the funding organization shall as necessary defer any approval or decision to grant further funds, suspend existing grants, or instruct the related organizations to suspend implementation with regard to competitive funding proposals by those persons determined to be responsible for the misconduct.
- (c) If the research funding organization, etc. receives investigation results from the investigating organization finding that specific research misconduct occurred, and confirms this, it shall impose sanctions as follows based on the contents of the investigation result.
  - i. Researchers to whom the sanctions apply
    - Authors (hereinafter including co-authors) found to have been committed in specific research misconduct with regard to any research paper(s) connected with the research in which specific research misconduct was identified
    - Persons who were not authors of any research paper(s) connected with the research in which specific research misconduct was identified but who were found to have been involved in the specific research misconduct
    - Authors who were not found to have been involved in the specific research misconduct but who bear prime responsibility for content of any research paper(s) connected with the research in which specific research misconduct was identified

ii. Return of competitive funds relating to the specific research misconduct

A research funding organization providing competitive funding for research activities in which specific research misconduct was identified shall, based on the nature of the case, cancel the decision to fund the researchers subject to sanctions as per i. above or their research institutions, or ask for the return of some or all of the competitive funds.

Note that administrative cost grants, private school subsidies and other forms of funding for basic operating expenses are not earmarked for particular research activities or researchers but are provided to research institutions, and their management is left to the institution. For this reason these Guidelines do not make a blanket prescription for how to handle the return of funds when specific research misconduct occurs in research using such funding, but rather ask the research institution to take appropriate measures at its own discretion.

iii. Restrictions on application for competitive funding and eligibility to receive such funding

The research funding organization, etc. shall, based on the nature of the case, place restrictions on the researchers subject to sanctions as per i. above regarding application for competitive funding and eligibility to receive such funding.

Regarding specific research misconduct in research activities receiving competitive funding, the research funding organization, etc. shall impose sanctions based on the “Guidelines on the Proper Implementation of Competitive Funding” (agreement of the liaison meeting of related offices and ministries on competitive funding, dated September 9, 2005; hereinafter “Competitive Funding Guidelines”). It shall also restrict application for other competitive funding and eligibility to receive such funding as per the Competitive Funding Guidelines.

Similarly, with regard to specific research misconduct in other research activities (excluding those for which competitive funding was received) the research funding organization, etc. shall place restrictions as per the Competitive Funding Guidelines on application for competitive funding and eligibility to receive such funding.

Matters to be implemented by research funding organizations, etc.

If notice was received from an investigating organization of the decision to launch a formal investigation or other such reports, issue instructions to the related organizations as needed.

To enable sanctions related to specific research misconduct to be imposed on researchers and research institutions, provide rules and regulations for the funding organization, and indicate the nature of sanctions to be imposed and the scope of their applicability to researchers when drawing up application guidelines for competitive funding and research commission contracts (including appended materials). Obtain acknowledgement of these potential sanctions from researchers and research institutions before funding applications are made or contracts are signed.

## **2. Sanctions on Research Institutions for Failure to Fulfill Their Management Responsibilities as Organizations**

It is important to promote ethical research activities by preventing misconduct from occurring and also by properly responding when cases of suspected misconduct are disclosed. The basic policy of these Guidelines is to strengthen the approach through greater assumption of responsibility by research institutions for preventing misconduct, so as to create an environment in which misconduct is discouraged. A research institution is asked to clarify its lines of responsibility as an organization, and to provide rules and the organizational structure for responding appropriately to misconduct in research. Based on this concept, MEXT and research funding organizations shall impose the following sanctions to ensure that research institutions fulfill their management responsibilities as organizations. The research institution shall be given an opportunity to provide an explanation prior to implementation of these sanctions.

### **(1) Establishing lines of responsibility as an organization**

#### **(a) Setting administrative conditions**

MEXT shall in any of the following cases assign administrative conditions to the research institution indicating improvements needed to remedy organizational or other inadequacies and the deadline for implementing them. MEXT shall confirm progress in fulfilling those conditions each fiscal year.

- i. When the investigations of research institutions as per Section 5.2, “Surveys of Implementation Status” confirm inadequacies in organizational provision
- ii. When a research institution in which specific research misconduct was confirmed is found to need improvements in its organizational structure, etc.

#### **(b) Reduction in indirect cost grants**

If, as a result of its confirmation of progress in fulfilling administrative conditions, MEXT judges that the conditions have not been fulfilled, the research funding organization providing competitive funding shall reduce by a fixed percentage the amount of indirect cost grants provided to the research institution in competitive funding for the following fiscal year and thereafter.

The percentage of reduction in indirect cost grants shall be raised in stages based on the results of confirmations by MEXT, with the upper limit being 15% of the amount of indirect cost grants. The criteria for setting the amount of reduction shall be set separately by MEXT.

#### **(c) Suspension of funding**

If, having decided to reduce indirect cost grants up to the limit, MEXT judges that the administrative conditions are still not being fulfilled, the research funding organization shall suspend the provision of competitive funding to that research institution for the following fiscal year and thereafter.

The lifting of sanctions (a) through (c) above shall be as follows.



- The sanctions in (a) shall be lifted by MEXT as soon as MEXT judges that the administrative conditions are being fulfilled faithfully in the research institution.
- The sanctions in (b) shall be lifted by the research funding organization from the following fiscal year if MEXT judges that the administrative conditions are being fulfilled faithfully in the research institution or that there has been progress in fulfilling the conditions.
- The sanctions in (c) shall be lifted by the research funding organization as soon as MEXT judges that the administrative conditions are being fulfilled faithfully in the research institution or that there has been progress in fulfilling the conditions.

## **(2) Ensuring prompt investigation**

If specific research misconduct is suspected in research activities for which a research funding organization provided competitive funding and the research institution is slow to conduct an investigation of the matter without a legitimate reason, the funding organization shall reduce by a fixed percentage the amount of indirect cost grants provided to the research institution in competitive funding for the following fiscal year.

The percentage of reduction in indirect cost grants shall be decided individually by the funding organization, with the upper limit being 10% of the amount of indirect cost grants.

Matters to be implemented by research funding organizations, etc.

Enable sanctions to be imposed on a research institution for failure to fulfill its management responsibility as an organization, by providing rules and regulations for the funding organization, and indicating the nature of sanctions to be imposed in application guidelines for competitive funding and research commission contracts (including appended materials). Obtain acknowledgement of these potential sanctions from research institutions before funding applications are made or contracts are signed.

## **3. Public Notice of Sanctions**

Upon deciding to impose sanctions as per 1. and 2. Above, MEXT and research funding organizations, etc. shall promptly make public notice of the matter.

## **Section 5. Surveys and Support by MEXT**

### **1. Ongoing Response to Misconduct in Research**

MEXT shall provide opportunities for studies by experts, keep track of implementation of these Guidelines, and revise them as needed.

### **2. Surveys of Implementation Status**

MEXT shall monitor the status of organizational provision in each research institution based on these Guidelines by conducting periodical surveys of institutions regarding their implementation, and shall make public the results. The surveys shall be carried out in writing, as interviews, as on-site investigations, or a combination of these. When the surveys of research institutions reveal inadequacies in organizational provision, guidance and advice shall be given such as by assigning administrative conditions.

### **3. Encouraging Development of Programs in RCR Education**

MEXT shall cooperate with the Science Council of Japan and research funding organizations to encourage the creation of standard programs and teaching materials in RCR education. Taking into account the realities of research, the diversity of research activities, and the nature of each research field, MEXT shall provide support for and seek to improve programs in RCR education to ensure that they are highly effective.

### **4. Support for Setting up an Investigating Organization in Research Institutions**

When specific research misconduct is suspected, the first step is to conduct an investigation in the research institution, but it may be difficult in some cases for the institution to carry out an adequate investigation on its own. For this reason, if MEXT determines that the research institution lacks the organizational structure for conducting a sufficient investigation, MEXT shall provide the research institution with advice as needed, and in cooperation with the Science Council of Japan and research funding organizations, shall provide necessary support for proceeding smoothly with a proper investigation, such as selecting and sending specialists.



## Items to be Incorporated in Investigation Result Report

### History and overview

Timing and circumstances of disclosure (if a allegation was brought, time and details of allegation)

Events leading up to investigation, etc.

### Investigation

Organizational structure of investigation (forming of investigative committee including outside experts not affiliated with investigating organization)

Details of investigation

- Investigation period
- Scope of investigation (persons and research activities covered, funding [competitive funding, funding for basic operating expenses])
- Investigation methods and procedures (e.g., document survey [examination of research paper(s), experimental and observation notes, raw data and other materials relating to the research], interviews with persons involved, details and results of attempts to replicate experiments, if any, etc.)
- Investigative committee members (including names and affiliations), meeting dates and agendas, etc.

### Results of investigation (details of specific research misconduct)

Types of specific research misconduct found (e.g., fabrication, falsification, plagiarism)

Researchers (including collaborators) involved in specific research misconduct

(a) Researchers found to have been involved in specific research misconduct (name [affiliation, post (current post)], researcher number)

(b) Researchers who were not found to have been involved in the specific research misconduct but who were found to bear prime responsibility for the content of any research paper(s) relating to the research in question (name [affiliation, post (current post)], researcher number)

Grants/research projects for which specific research misconduct occurred

(Competitive funding)

- Program name
- Name of research category, research project, research period
- Amount of grant decided or contracted amount
- Name of principal researcher (affiliation, post [current post]), researcher number
- Names of research collaborators and partners (affiliation, post [current post]), researcher number

(Funding for basic operating expenses)

- Administrative cost grants
- Private school subsidies

Specifics of misconduct (give as much detail as possible)

- Method
- Details of misconduct
- Amount of competitive funding or funding for basic operating expenses provided for the research in question, and how the funds were used

Conclusions as an organization based on investigation and reasons for judgment

Measures taken by investigating organization to date

E.g., sanctions such as suspending implementation of competitive funding proposals, etc., punishing persons involved, recommending withdrawal of any research paper(s), etc.

Factors behind occurrence of specific research misconduct and measures to prevent recurrence

Causal factors (including management structure of research institution at time of misconduct, progress in providing necessary rules; give as much detail as possible)

Measures for preventing a recurrence