

The 4<sup>th</sup> World Conference on Research Integrity

# Research Integrity and its Process of Universities and Institutes in Japan

Makoto Asashima

Executive Director, Japan Society for the Promotion of Science

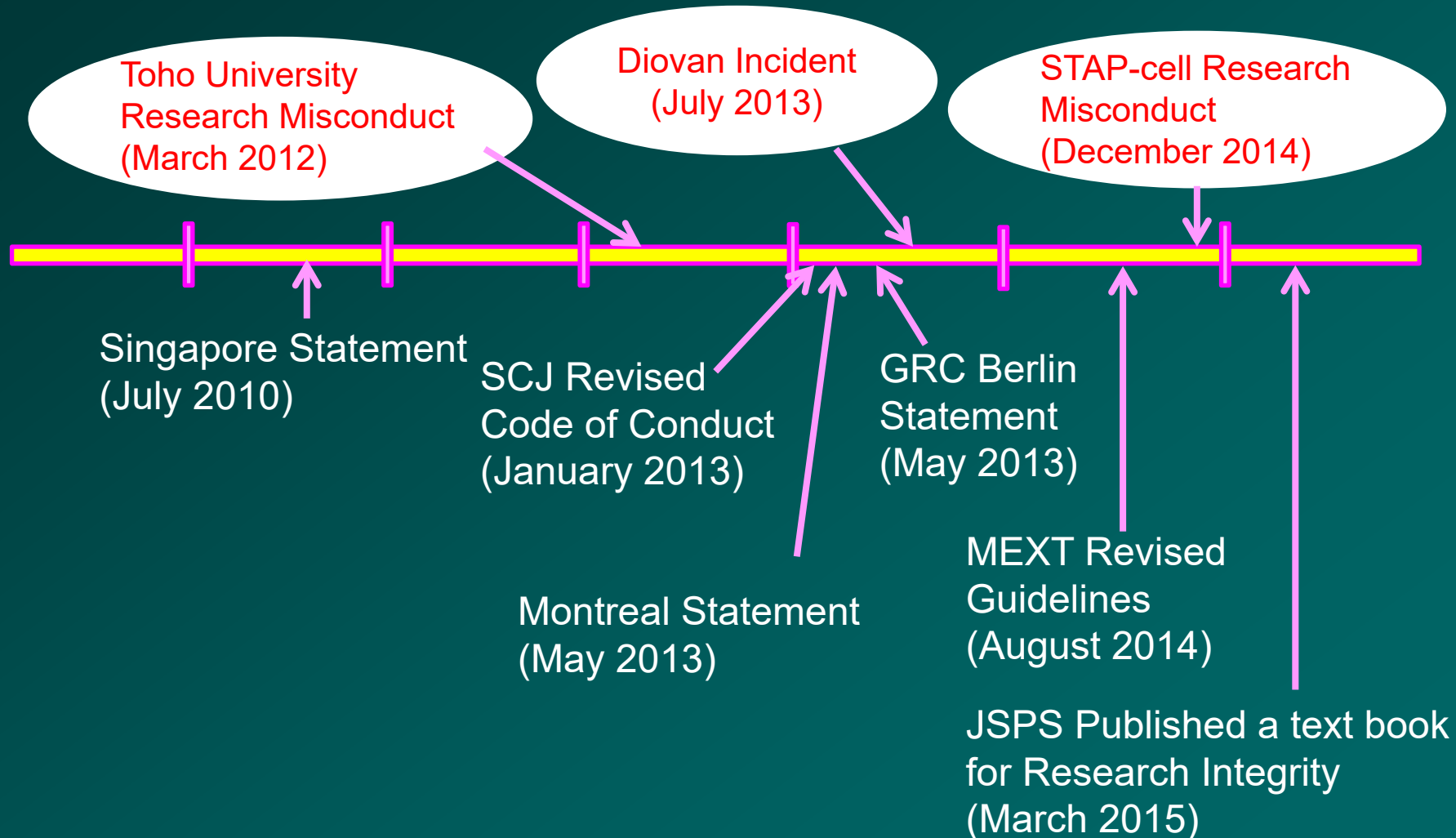
3<sup>rd</sup> June 2015

Rio de Janeiro, BRAZIL

# Contents

1. Current Research Integrity in Japan and its Challenge
2. Research Environment
3. Changes in Research Environment (Social Trends)
4. Prescription to be Implemented
5. Green Book is to resolve these issues
6. Conclusion: Towards the idea of research integrity common in the world

# Current Research Integrity and its Challenge



# Singapore Statement on Research Integrity (SSRI)

(22<sup>nd</sup> September 2010)

<The 2<sup>nd</sup> World Conference on Research Integrity>

## Principles

**Honesty** in all aspects of research

**Accountability** in the conduct of research

**Professional courtesy and fairness** in working with others

**Good stewardship** of research on behalf of others

- |                                |  |
|--------------------------------|--|
| 1. Integrity                   | 9. Conflict of Interest                            |
| 2. Adherence to Regulations    | 10. Public Communication                           |
| 3. Research Methods            | 11. Reporting Irresponsible Research Practices     |
| 4. Research Records            | 12. Responding to Irresponsible Research Practices |
| 5. Research Findings           | 13. Research Environments                          |
| 6. Authorship                  | 14. Societal Considerations                        |
| 7. Publication Acknowledgement |  |
| 8. Peer Review                 |  |

# Montreal Statement on Research Integrity

(5<sup>th</sup> -8<sup>th</sup> May 2013)

<The 3<sup>rd</sup> World Conference on Research Integrity>

## Responsibilities of Individual and Institutional Partners in Cross-Boundary Research Collaborations

1. Integrity
2. Trust
3. Purpose
4. Goals
5. Communication
6. Agreements
7. Compliance with Laws,  
Policies and Regulations
8. Costs and Rewards
9. Transparency
10. Resource Management
11. Monitoring
12. Roles and Responsibilities
13. Customary Practices and  
Assumptions
14. Conflict
15. Authority of Representation
16. Data, Intellectual Property and  
Research Records
17. Publication
18. Authorship and  
Acknowledgement
19. Responding to Irresponsible  
Research Practices
20. Accountability

# Global Research Council

the 2<sup>nd</sup> Annual Meeting (28<sup>th</sup> -29<sup>th</sup> May 2013 in Berlin)



## Statement of Principles for Research Integrity

### Preamble

The Responsible Conduct of Research is at the very essence of the scientific enterprise and is intrinsic to society's trust in science. Within the framework of the Responsible Conduct of Research, the basic principles of Research Integrity - namely honesty, responsibility, fairness and accountability – are enshrined in foundational documents <sup>1</sup> that also describe the responsibilities of researchers and the scientific community.

While researchers and institutions themselves remain ultimately responsible for undertaking research with integrity, research funding agencies have an obligation to ensure that the research they support is conducted in accordance with the highest standards possible. To that end, participants in the 2nd Annual Meeting of the Global Research Council recognize the following Principles to articulate the responsibilities of research funding agencies in creating an international environment in which research integrity is at the core of all activities.

### Principles

#### Leadership

Research funding agencies must lead by example in the responsible management of research programs.

#### Promotion

Research funding agencies should encourage institutions to develop and implement policies and systems to promote integrity in all aspects of the research enterprise.

#### Education

Research funding agencies should promote continual training in research integrity, and develop initiatives to educate all researchers and students on the importance of research integrity.

#### Transparent Processes

Research funding agencies should, within the scope of their mandate, publish policies and procedures to promote research integrity and to address allegations of research misconduct.

#### Response to Allegations of Misconduct

During any investigation of misconduct <sup>2</sup>, research funding agencies should support a process that values accountability, timeliness and fairness.

#### Conditions for Research Support

Research funding agencies should incorporate integrity in research as a condition for obtaining and maintaining funding by researchers and institutions.

#### International Cooperation

Research funding agencies will work cooperatively with partners to support and facilitate research integrity worldwide.

<sup>1</sup> For example: the Singapore Statement, the Inter Academy Council IAP Policy Report, and the European Code of Conduct for Research Integrity.

<sup>2</sup> Breaches of research integrity can include, but are not limited to, plagiarism, fabrication and falsification.

# **Revised Version**

## **“Code of conduct for scientists”**

### **(Revised in January 2013)**

### **(Science Council of Japan) (SCJ)**

#### **I. Responsibilities of Scientists**

1. Basic Responsibilities of Scientists
2. Attitude of Scientists
3. Scientists in Society
4. Dual Use of Scientific Research Outcomes

#### **II. Research Integrity**

5. Research Activities
6. Establishing Sound Research Environments and Thorough Educational Enlightenment
7. Consideration for Research Subjects

#### **III. Science in Society**

8. Dialogue with Society
9. Scientific Advice

#### **IV. Legal Compliance**

10. Compliance with Laws and Regulations
11. Rejection of Discrimination

# “Code of conduct for scientists” (Cont’d)

## Point of the Revised Version (SCJ)

### (Fabrication, Falsification, and Plagiarism)

Adding the following articles to “I. Responsibilities of Scientists”

#### 2. Attitude of Scientists

#### 3. Scientists in Society

### (Educational Enlightenment)

Adding “Thorough Educational Enlightenment” (II. Research Integrity)

#### 6. Establishing Sound Research Environments and Thorough Educational Enlightenment

### (Dual Use)

Adding the following articles to “I. Responsibilities of Scientists”

#### 4. Dual Use of Scientific Research Outcomes

### (Authorship)

Adding the following sentence to “7. Research Activities” of “II. Research Integrity,”

#### 5. Research Activities

By reporting their research results through such means as papers, scientists shall take responsibility as well as obtaining recognition for their achievements in accordance with the role that they played.

# Governance of Research Integrity in Japan

- MEXT “Guidelines for Responses to Research Misconduct Pertaining to Research Supported by Competitive Funding” (August 2006)
  - Specify principles for responding appropriately to research misconduct in research supported by competitive funding
  - Urge universities, research institutions and funding agencies to develop appropriate arrangements for responding appropriately to research misconduct
  - Scope of “Misconduct”: Fabrication, falsification and plagiarism of data or research results appearing in published research results
  - Guidelines:
    - Receiving Allegations and other information*
    - Investigation of Allegations and Other Information*
    - Measures Applicable to Informants and Subjects of Allegations*
    - Actions by Funding Institutions Against Persons Culpable of Misconduct*

- **MEXT “Guidelines for Responses to Research Misconduct Pertaining to Research Supported by Competitive Funding” (26<sup>th</sup> August 2014 revision)(Cont’d)**

## **Background**


- ✓ MEXT has been taking necessary measures regarding research institutions (including universities; the same applies hereafter) in accordance with the “Guidelines for Responding to Misconduct in Research” (August 2006, Special Committee on Misconduct in Research Activities, Council for Science and Technology).
- ✓ However, as cases of misconduct in research activities continue to happen, the guidelines were reviewed based on a summary of the “Task Force on Misconduct in Research and Misuse of Research Funds” (September 2013) and a summary of discussions of “Panel of Experts on the Revision and the Improvement of Implementation of the Guidelines for Responding to Misconduct in Research”(February 2014).

## **Basic Direction of the Review**

- ✓ New guidelines are to be established, with the approval of the Minister of Education, Culture, Sports, Science and Technology.
- ✓ Whereas individual researchers have traditionally been held accountable for taking measures against misconduct in research activities, research institutions are now responsible for taking part in preventing misconduct, making measures more robust.

# Research Environment

NHK has been broadcasting , and guest appearances on the show , “Today’s Close-Up” to dig deep and current news background . He described how to stop successive research misconduct case such as STAP cell problem. (10<sup>th</sup> March, 2015 on air)

 クローズアップ現代

毎週月-木曜放送 総合 午後7時30分-午後7時56分  
[再放送] 毎週火-金曜 総合 午前1時00分-午前1時26分 (月-木曜深夜)


[ホーム](#) [放送予定](#) [これまでの放送](#) [ウェブ特集](#) [動画](#)

これまでの放送

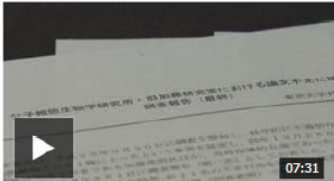
No.3628 2015年3月10日(火) 放送


[ツイート](#) [シェアする](#) [チェック](#) [共有する](#) [?](#)  
※NHKサイトを離れます

## 論文不正は止められるのか ～始まった防止への取り組み～

 視聴率 8.3% 株式会社ビデオリサーチ 世帯視聴率 (関東地区)

[ジャンル](#) [社会問題](#) [自然・科学](#) [教育](#)

  
07:31  
放送の一部をご覧いただけます。



出演者  
浅島 誠さん  
(日本学術振興会理事)

東京大学の加藤茂明元教授らが執筆した分子生物学の33報の論文に不正があると、去年12月大学が公表した。実験を行う前から、期待する実験結果をあらかじめ作成しておく「仮置き」という作業慣行が、不正の一因となっていたことを報告書は指摘。「ストーリーに合った実験結果を求める姿勢の行き過ぎ」があったとした。STAP細胞問題など相次ぐ論文ねつ造の背景には、インパクトある論文を量産しないと研究費が確保できない研究環境や、研究室の密室性が関わっていると専門家は指摘する。そうした中、国は去年「研究不正防止のガイドライン」を改定。研究者の倫理教育プログラム受講の徹底や、研究生データの保存義務づけなどの新たな対策に乗り出した。画像不正検出ソフトを使い、民間の力で研究不正を洗い出す取り組みも始まっている。崩壊しつつある科学界のモラルを取り戻すには何が必要かを考える。



(Above) (Left) Today's Close Up  
[http://www.nhk.or.jp/gendai/kiroku/detail\\_3628.html](http://www.nhk.or.jp/gendai/kiroku/detail_3628.html)



After shooting with casts

# Research Environment

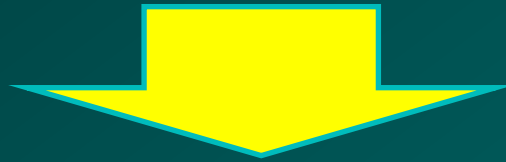


Different Approaches but...

Idea of Research Integrity is Common  
in the World

# Changes in Research Environment (Social Trends)

Results of the Scientific Research for the Growth of Society



Promote Scientific Technology for National Policy

“Statement of Principles for Funding for Scientific Breakthrough”  
(GRC 28<sup>th</sup> May 2015)

# “Prescription to be Implemented”

- Phenomenal growth of the scientific technology  
(Lights and shadow of Science)

Genome editing, gene recombination, dual-use...

→ Basic concepts varies across the ages and countries...

Update regulations and knowledge

- Elongate worldwide collaborative research  
→ Recognize and share differences in background
- Mobilization and Increasing number of part-time employee  
Minimal acquaintanceship  
→ Document unspoken rules

# “Prescription to be Implemented”

Change in Landscape of Science in Society



Insufficient Education      Lack of Trust to Science

Lack of Information

# “Green Book” is to resolve these issues

Enacting severe guidelines and code of conduct



By discouraging researcher's creativity/  
losing motivation toward research



Will lead to adverse impact

JSPS Compiled fundamental knowledge that  
researchers must know in implementing the research

*Green Book*



# Green Book

NEW

## For the Sound Development of Science

—The Attitude of  
a Conscientious Scientist—

Japan Society for the Promotion of Science  
Editing Committee  
"For the Sound Development of Science"

MARUZEN PUBLISHING

June 2015  
in store!!

### 《Contents》

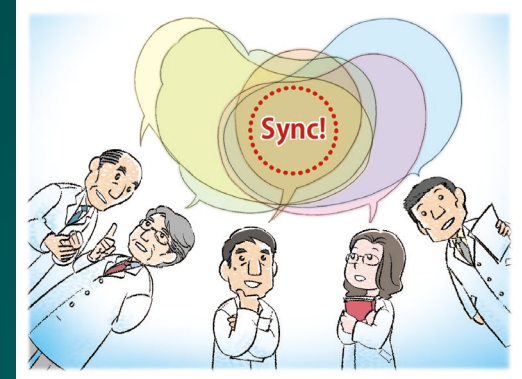
- Section I : What Is a Responsible Research Activity?
- Section II : Planning Research
- Section III : Conducting Research
- Section IV : Presenting Research Results
- Section V : How to Conduct Joint Research
- Section VI : Appropriate Use of Research Funds
- Section VII : Contributing to Quality Improvement in Scientific Research
- Section VIII: For the Progress of Society

# Section I What Is a Responsible Research Activity?

## Section II Planning Research

### 1. Value and Responsibility of Research

- Purpose of the research
- Appropriateness of research
- Shared objectives in joint research



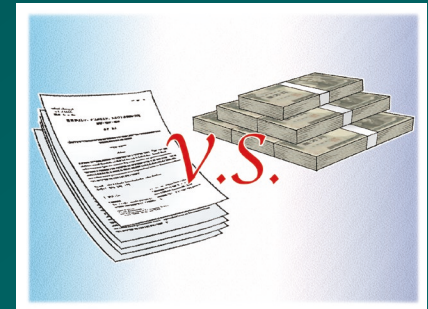
### 2. Freedom in Research and What Is to Be Protected

- What is to be protected
- What is to be protected in research with human subjects
- Safety consideration in the research environment

### 3. Measures to Avoid Conflicts of Interest

### 4. Security Consideration

- Security Export Control of Subtleties and Other Technologies
- Dual-Use Issues



### 5. Compliance with Laws and Regulations

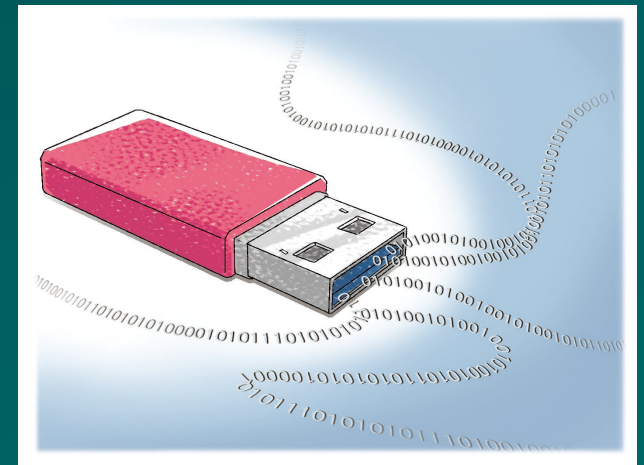
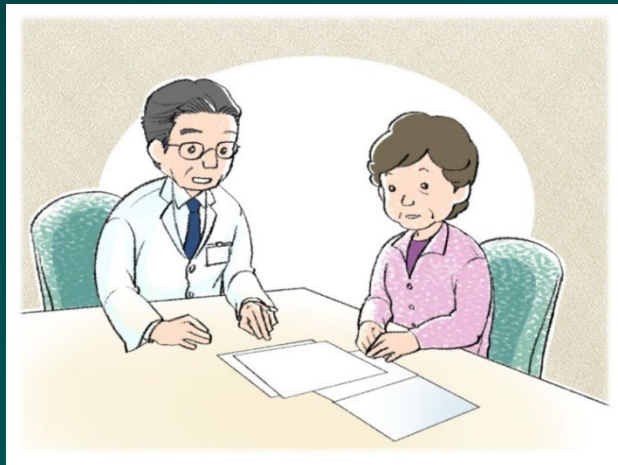
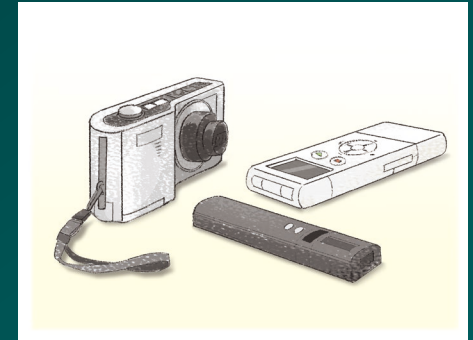
# Section III Conducting Research

## 1. Informed Consent

- Concept and necessity of informed consent
- Components and procedures of informed consent

## 2. Protecting Personal Information

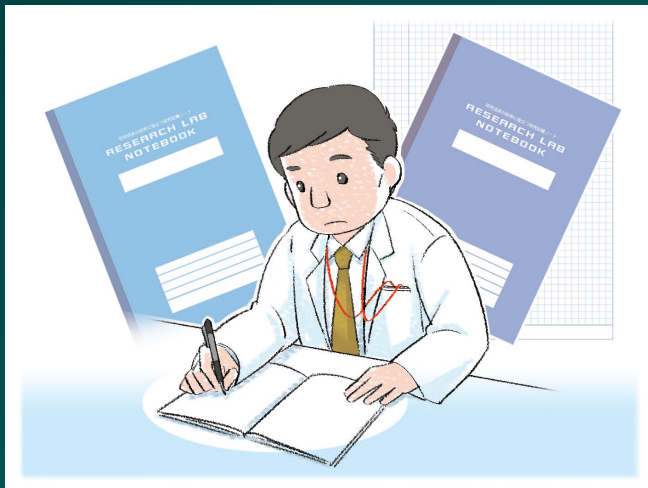
- Definition of “Personal Information”
- Linkable anonymizing and non-linkable anonymizing
- Scientists’ responsibility for personal information in conducting research
- Handling personal information in the humanities and social sciences



# Section III Conducting Research

## 3. Collecting, Managing, and Processing Data

- Data and their importance
- Purposes of lab notes
- What makes the best lab notes
- Lab Notes: Items to record, methods of recording
- Managing lab notes (Data)



[Entry Example]

Date, month, and year of the entry should be clearly recorded.

Only when the entry goes on for two or more pages.

Correction of an error (be sure the date is clear)

Page number, to be recorded when the page is used.

Full name of the reviewer

Date of review

Main title: research project title

Reference work cited

Later revision

Tally impression

Transparent film tape

Separate sheet attached

Only if a blank space is left below before going on to the next page

以下空白

記入者 鈴木次郎 確認者 佐藤太郎 日付 2010年 2月 9日

Signature of the person writing the entry (full name)

Signature of the reviewer (full name)

Date reviewed

10年2月7日 続き

ポリプロピレン -10年2月7日 鈴木太郎  
ポリエチレンを

佐藤太郎 10年2月7日

10年2月8日 プロジェクト: △ △ △ △ △ △

(データ引用文献名: □ □ □ □, P12)

10年2月8日 以前に行った記載を下記の通り訂正する。  
(訂正箇所) P40、10年1月17日  
(訂正内容)   
(訂正理由)

佐藤太郎 10年2月8日

10年2月9日 プロジェクト: ○ ○ ○ ○ ○ ○

以下空白

“Research Lab Notebook” developed jointly by Prof. Yoichiro Sada of Yamaguchi University and Kokuyo S & T Co. Ltd., a Japanese stationery manufacturer. Here is an example of an entry in it.

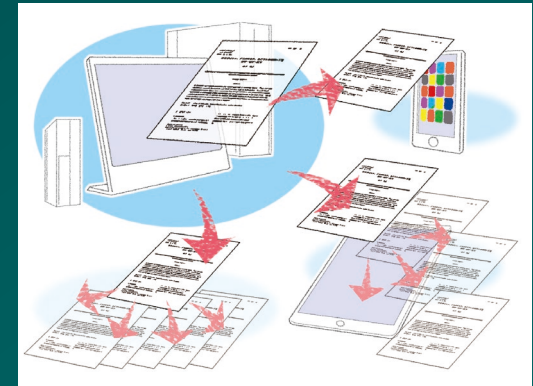
## Section III Conducting Research

## 4. What Is Research Misconduct?

- Definition of research misconduct
- Examples of fabrication and falsification
- Examples of plagiarism
- Citing sources

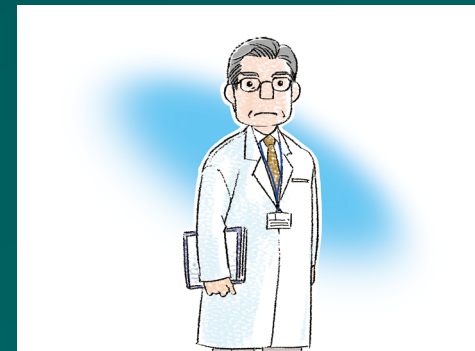


## 5. Avoiding Questionable Research Practices



## 6. Duty of Confidentiality

## 7. Responsibilities of the Principal Investigator



# Section IV Presenting Research Results

## 1. Presentation of Research Results

- Importance of presenting research results
- Announcement using mass media



## 2. Authorship

- Responsible presentation
- Credit for research results
- Authorship and responsibilities
- Who should be listed as authors
- List of authors



## 3. Improper Authorship

- Gift authorship
- Ghost authorship



## Section IV Presenting Research Results

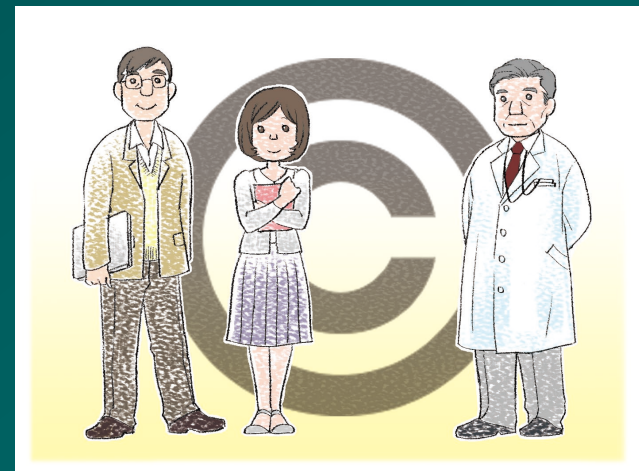
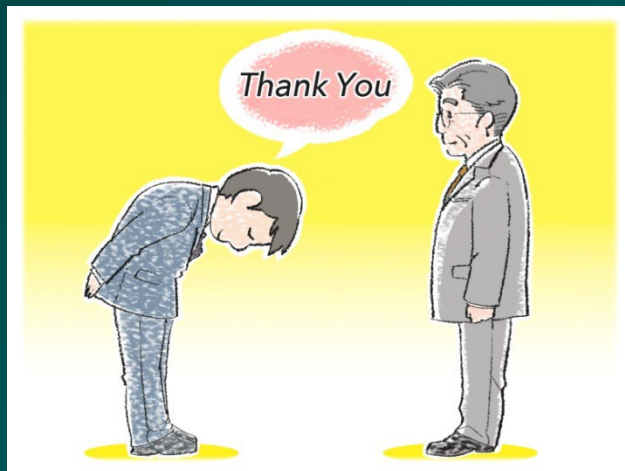
### 4. Improper Presentation Methods

- Duplicate posting, duplicate publication
- “Salami Slicing” in publishing
- Improper referencing of prior research
- Acknowledgements



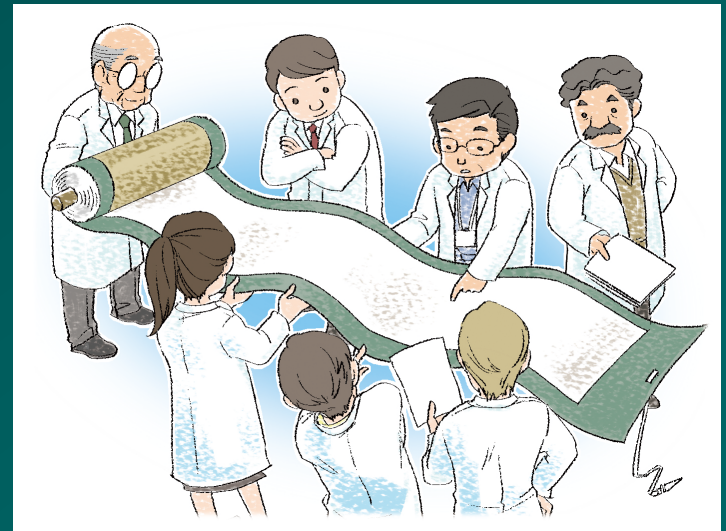
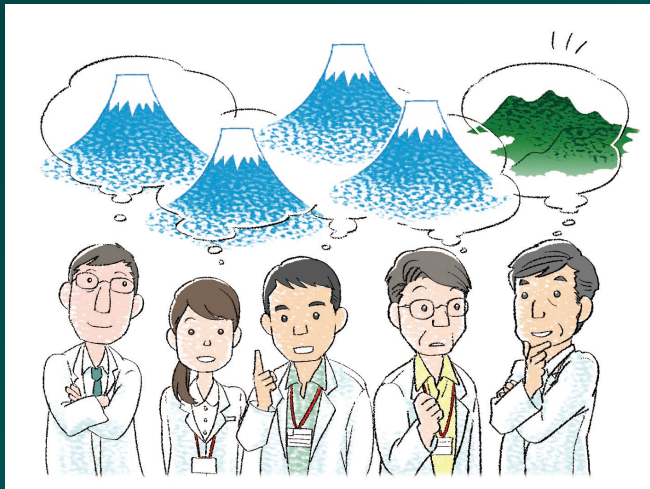
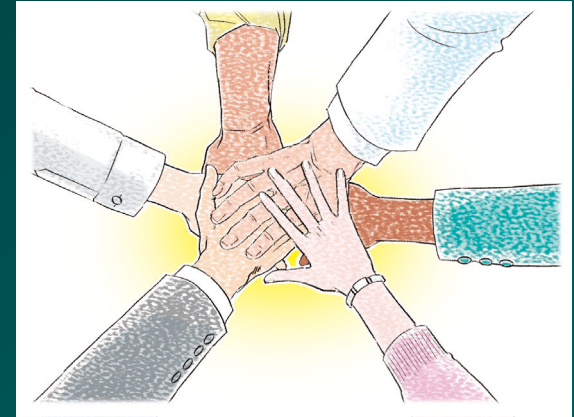
### 5. Copyright

- What Is a copyright?
- When using someone else's copyrighted material
- Secondary use when no permission of the copyright owner is necessary



## Section V How to Conduct Joint Research

1. Rise in Joint Research and Background
2. Challenges in International Joint Research
3. Points to Remember in Joint Research
4. Positions regarding Graduate Students and Joint Research



# Section VI Appropriate Use of Research Funds

## 1. Responsibilities of the Scientist

- Understanding rules concerning the use of public research funds
- Cooperation to ensure proper use of research funds by research institutions
- How to process private subsidies

## 2. Examples of Improper Use of Public Research Funds

Example1 Impropropriety through fictitious orders and deposit

Example2 Impropropriety through fictitious labor costs (honoraria)

Example3 Impropropriety through fictitious travel and transportation expenses

## 3. Measures Taken against Improper Use of Public Research Funds

- Return of public research funds connected to improper use
- Limitations on eligibility to apply for competitive funding
- Disciplinary actions within research institutions
- Miscellaneous



# Section VII Contributing to Quality Improvement in Scientific Research

## 1. Peer Review

- Role of peer review
- Peer review of research papers and research grant applications
- Role and responsibilities of the reviewer
- Challenges in peer review

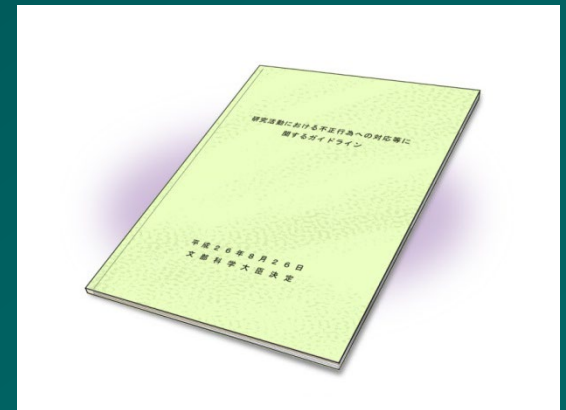


## 2. Guiding Younger Generations

- Teaching responsibilities as mentors
- Guiding doctoral students and reviewing their dissertations responsibly

## 3. Ways to Prevent Research Misconduct

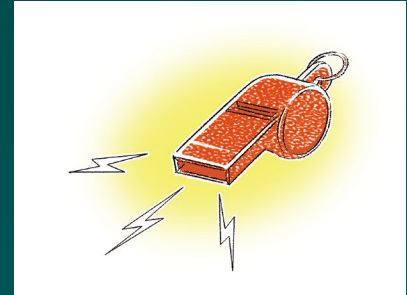
- Roles of policies, guidelines, etc.
- Roles of academic and professional associations
- Roles of research institutions



## Section VII Contributing to Quality Improvement in Scientific Research

### 4. Importance of Ethics Education in Research

- Professional and occupational ethics
- Ethics education in research on the rise



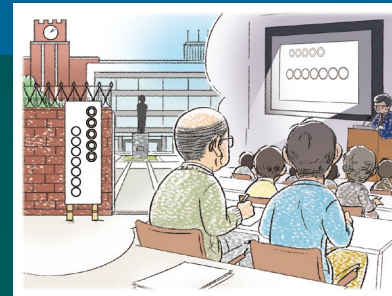
### 5. Prevention of Research Misconduct and Whistleblowing

- Importance of reporting misconduct
- Protection of whistleblowers

## Section VIII For the Progress of Society

### 1. Role of Scientists

### 2. Dialogue between Scientists and Society



### 3. Scientists and Professionalism



# Green Book

科学の健全な発展に

Conditioning this  
program as a  
prerequisite for all  
scientists.  
(Scheduled)

丸善出版



For the Sound  
Development  
of Science

—The Attitude of  
a Conscientious Scientist—

Japan Society for the Promotion of Science  
Advisory Committee  
“Sound Development of Science”

e-Learning

Under preparation  
to be completed in  
April 2016!!

MARUZEN PUBLISHING

# Conclusion

—JSPS's effort in enhancing the recognition of research integrity common in the world based on mutual trust—

◇In Japan

Established Advisory Meeting for Promotion of Research Integrity

(17<sup>th</sup> April 2015 by MEXT Cheir : Makoto Asashima)

- Monitoring the situation at each university toward research integrity
- Confirmation and review of contents of research ethics education

◇With our partners overseas

With NSF(USA) 2014

With DFG(German) 2015

- 
- 
- 



Towards the idea of research integrity common in the world

# JSPS supports enhancing research integrity in open and free environment



ありがとうございました *Thank You* Gracias



JSPS