

November 16, 2011 | 11:00 am CST

# Publication Ethics: Plagiarism, Misconduct, and Retractions

Best Practices AND  
Innovative Solutions



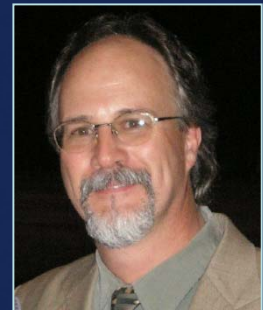
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Presenter  
**Monica Bradford**

Host



Tim Cross

# What is Misconduct?

- “Although no standard definition of research misconduct exists, and new variations are, unfortunately, likely to arise as scientific methods progress, research misconduct generally falls into one of the following areas:
  - Unethical treatment of research subjects
  - Fabrication of data
  - Falsification of data
  - Plagiarism”

**CSE's White Paper on Promoting Integrity in Scientific Journal Publications, 2009 Update** (approved by the CSE Board of Directors on March 29, 2009)

<http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3360>

# Definitions

<http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3360>

- **Mistreatment of Research Subjects:**
  - “When research involves human subjects or their specimens, failure to adhere to the principles in the Declaration of Helsinki<sup>94</sup> and to seek approval from and adhere to the ethical standards of the appropriate institutional or national committee on human experimentation is a serious form of scientific misconduct.
  - For researchers who study animals, failure to follow institutional or national recommendations for the care and use of laboratory animals is also a serious type of research misconduct.”
- “Fabrication refers to the invention, recording, or reporting of data.”
- “Falsification refers to the alteration of research materials, equipment, protocols, data, or results.”

# Definitions

<http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3360>

- Piracy is defined as the appropriation of ideas, data, or methods from others without adequate permission or acknowledgment.
- Plagiarism is a form of piracy that involves the use of text or other items (figures, images, tables) without permission or acknowledgment of the source of these materials.
- Plagiarism generally involves the use of materials from others, but can apply to researchers' duplication of their own previously published reports without acknowledgment (this is sometimes called self-plagiarism or duplicate publication).

# Basics

- Develop a procedure for allegations:
  - Who at the journal is involved and for what tasks?
  - What information is shared internally and externally?
- What is the threshold for following up on an allegation?
- What steps are needed to evaluate technical as well as ethical allegations?



## Promoting integrity in research publication

COPE is a forum for editors and publishers of peer-reviewed journals to discuss all aspects of publication ethics. It also advises editors on how to handle cases of research and publication misconduct. Read more [About COPE...](#)

1,2,3,4,5

### Guidelines

Access COPE's official guidance, including the Retraction Guidelines.



### Flowcharts

Our flowcharts are designed to help editors follow COPE's Code of Conduct and implement its advice when faced with cases of suspected misconduct.



### eLearning

COPE's eLearning course is now live. Designed to give editors a deeper understanding about publication ethics and practical guidance about how to detect, prevent and handle misconduct.



### Code of Conduct

COPE aims to define best practice in the ethics of scholarly publishing and to assist editors, editorial board members, owners of journals and publishers to achieve this.

#### NEWS & OPINION

##### Opinion / Psychology of fraud

10/11/2011 8.03am by Liz Wager

Social psychologist Jennifer Crocker has written a

##### Opinion / Misconduct in social psychology investigated

7/11/2011 10.27am by Liz Wager

##### Opinion / Study shows prevalence of guest and ghost authors

25/10/2011 5.23pm by Liz Wager

# My Experience at *Science*

- 49 retraction notices since 1997 covering 57 papers
  - ~20 resulting from investigations
  - 1 Partial Retraction: not advised, sometimes necessary
- 8 Editorial Expressions of Concern since January 2006
- Reasons for and author reactions to the retractions varied.

# Preferred Method: Authors Retract

- Good: the original authors initiate and/or agree to retract the paper
- Bad: one or more authors refuse to sign retraction
- Ugly: authors refuse to retract despite institutional findings and/or try to inappropriately characterize the status of the work

1) Evidence of a Pluripotent Human Embryonic Stem Cell Line Derived from a Cloned Blastocyst

Woo Suk Hwang, Young June Ryu, Jong Hyuk Park, Eul Soon Park, Eu Gene Lee, Ja Min Koo, Hyun Yong Jeon, Byeong Chun Lee, Sung Keun Kang, Sun Jong Kim, Curie Ahn, Jung Hye Hwang, Ky Young Park, Jose B. Cibelli, and Shin Yong Moon

**Science 12 March 2004: 1669-1674. Published online 12 February 2004**

2) Patient-Specific Embryonic Stem Cells Derived from Human SCNT Blastocysts

Woo Suk Hwang, Sung Il Roh, Byeong Chun Lee, Sung Keun Kang, Dae Kee Kwon, Sue Kim, Sun Jong Kim, Sun Woo Park, Hee Sun Kwon, Chang Kyu Lee, Jung Bok Lee, Jin Mee Kim, Curie Ahn, Sun Ha Paek, Sang Sik Chang, Jung Jin Koo, Hyun Soo Yoon, Jung Hye Hwang, Youn Young Hwang, Ye Soo Park, Sun Kyung Oh, Hee Sun Kim, Jong Hyuk Park, Shin Yong Moon, and Gerald Schatten

**Science 17 June 2005: 1777-1783. Published online 19 May 2005**

# Multiple Issues

- Authorship
- Data falsification and fabrication
- Questionable IRB process
- Questionable documentation for informed consent

# Complexity

- Multiple institutions from multiple countries
- Anonymous whistle-blowers
- Language barriers
- Intense media scrutiny
- Human elements: hospitalizations, suicide attempts, cultural norms

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Science

Low-Power Memory Switch

Science Podcast

More from Science

ScienceNOW Daily News

Stem Cell Ruling Brings Relief for Low, But Legal Battle Continues

Tropical Peat Forests in Trouble

Teachy to Leave Key

## Special Online Collection: Hwang et al. Controversy -- Committee Report, Response, and Background

On December 1, 2006, *Science* published, on this Web site, the report of a committee commissioned by the journal to review its practices in the period leading up to the publication of the 2004 and 2005 stem cell papers by Hwang et al., which were subsequently retracted. On this page, we are making available direct links to the report, *Science's* response, and an accompanying editorial.

To provide additional context on the history of the controversy, we also provide on this page links to *Science's* editorial retraction of the papers and other official statements on the situation, the original *Science* papers, associated news coverage on the controversy, letters and a Policy Forum on the controversy, and another Policy Forum on stem cell ethics published earlier in 2005.

Jump to features in special collection:

- ▼ Committee Report
- ▼ Science Statements
- ▼ The Papers
- ▼ News Coverage
- ▼ Letters/ Policy Forum

### COMMITTEE REPORT AND SCIENCE RESPONSE

In its 1 December issue, *Science* published an editorial, authored by Editor-in-Chief Don Kennedy, discussing the journal's internal review process in the wake of the Hwang scandal, as well as the review conducted by a committee including members of the journal's Senior Editorial Board, the U.S. executive editor of another major scientific journal, and two distinguished members of the stem cell research community. Links to the editorial and associated report appear below.

#### Editorial: Responding to Fraud

Donald Kennedy

*Science* 1 December 2006 314: 1353 [DOI: 10.1126/science.1137840]

[Full Text »PDF »](#)

#### Supporting Online Material: Committee Report and Science Response

Committee Report: John Brauman, John Gearhart, Douglas Melton, Linda Miller, Linda Partridge, George Whitesides

Response: Donald Kennedy  
[PDF »](#)

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The new journal  
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intersection of basic science  
and clinical medicine.

# Internal and External Review Panels

- Supporting online data needs thorough scrutiny. Can be the “smoking gun” that points to suspicious data.
- Are there “risk factors” that can help identify papers that should receive an even higher level of scrutiny?
  - Multi-disciplinary
  - Result that was “hoped for” or too good to be believed
  - Multiple labs and multiple countries
  - Fast turn around on additional experiments/data

# Impact of Hwang on Our Policies

- E-mail message to every co-author upon submission of paper
- New author forms signed prior to acceptance by all authors
- Senior author takes responsibility for data sets
- All revised manuscripts screened for image manipulation.

Each author must complete the following form prior to acceptance of their paper.

**Authorship:** The authorship policies of *Science* follow those recommended by the report "On Being a Scientist", 3rd Edition, published by the US National Academy of Sciences (<http://www.nap.edu/catalog/12192.html>).

In particular, we note that "just providing laboratory space for a project or furnishing a sample used in the research is not sufficient to be included as an author, although such contributions... may be recognized in a separate acknowledgement section."

In order to meet our requirements for authorship of a paper, you must have participated significantly in the reported research or writing of the paper. Please affirm that you meet these criteria by indicating your contribution to all of the following descriptions (circle from 0% responsible to 100% responsible): I...

Authorship Activity	Level of participation
Participated in the design and/or interpretation of the reported experiments or results.	0 20 40 60 80 100%
Participated in the acquisition and/or analysis of data. State Which data: _____	0 20 40 60 80 100%
Participated in drafting and/or revising the manuscript.	0 20 40 60 80 100%
Was primarily responsible for a particular, specialized role in the research, e.g. statistical analysis, crystallography, preparation of cell lines; please briefly state which: _____	0 20 40 60 80 100%
Provided administrative, technical or supervisory support.	0 20 40 60 80 100%

The senior author from each lab or group must answer this question:

I have personally checked all the original data that was generated by my lab or group:

Yes  Not applicable; I am not the senior author or lab head.

If yes, these data are presented in these figures and tables (including the Supporting Online Material):

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# Lessons learned

- Balance notice to readers with a fair process.
  - Editorial Expressions of Concern help with this
- Not always clear who are the “good guys”
  - Rapid online reactions can help and hinder
- Don’t hesitate to pick up the phone and talk to those involved.
- Work with other editors and reach out to trusted individuals in the various countries.

**Published Online 3 March 2008**

**Science 7 March 2008:**

**Vol. 319 no. 5868 p. 1335**

**DOI: 10.1126/science.1157223**

### **Editorial Expression of Concern**

In the 1 July 2005 issue, Science published the Report “A magnetic nanoprobe technology for detecting molecular interactions in live cells” by J. Won et al. (1). Professor Gyun Min Lee, Chair, The Internal Investigation Committee, Department of Biological Science, Korea Advanced Institute of Science and Technology (KAIST), notified Science on 28 February 2008 that this article, published by Professor Tae-Kook Kim and his co-workers, is being investigated along with a paper published in Nature Chemical Biology (2). The correspondence from Professor Lee states that, although the formal investigation has not yet been completed, “our initial investigative results are strong enough to convince us that the two papers do not contain any scientific truth.” Science is publishing this Editorial Expression of Concern to alert our readers to the fact that serious questions have been raised about the validity of the findings in the Won et al. paper. We are working with the authors and KAIST to determine appropriate next steps.

**Don Kennedy and Bruce Alberts**

***Science* 24 April 2009:  
Vol. 324 no. 5926 p. 463  
DOI: 10.1126/science.324\_463a**

### **Retraction**

**Science has received the results of the Kaist Research Integrity Committee Investigation of the Report published in Science by J. Won et al. (1). According to an English translation commissioned by Science, the committee found that the original data underlying the experiments reported in Science are not available and that many of the results in the paper were fabricated. Therefore, the data, results, and conclusions in the Won et al. Report are clearly not reliable, and Science is hereby retracting the paper.**

**Bruce Alberts**

# Closing thoughts

- Need to look closely at the pressures contributing to the inappropriate behaviors of scientists.
- Scientists are humans and this means we will always be confronted with new challenges to integrity, some intentional.
- Need to keep in touch with your community:
  - Which behaviors/trends worry them?
  - How can you be proactive?