

EMBO's efforts in research integrity

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About EMBO

EMBO stands for excellence in the life sciences.

EMBO is an organization of more than [1700 leading researchers](#) that promotes excellence in the life sciences. The major goals of the organization are to support talented researchers at all stages of their careers, stimulate the exchange of scientific information, and help build a European research environment where scientists can achieve their best work.



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*“help build a research **environment** where scientists can achieve **their best work.**”*

Highest scientific and ethical standards



Singapore Statement 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

<http://www.singaporestatement.org>

Research Integrity

- The use of **honest** and **verifiable methods** in proposing, performing, and evaluating research;
- Reporting results with particular attention to adherence to **rules, regulations, guidelines**;
- Following commonly accepted **professional codes or norms**.

(Office of Research Integrity, NIH, USA)

Research Integrity

Being responsible in a research setting is a **set of skills**, it is **not a moral status**.

These skills can be **developed** through appropriate **training** and **supervising** and fostered with appropriate **policies**.

Research Integrity

Aim

- ✓ That scientific results are accurate, reliable, verifiable, reusable and reproducible.
- ✓ That science delivers useful outcomes to society (knowledge, products: therapies, drugs, etc.). Maintain **trust**.
- ✓ That scientific research does no harm.

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Health

Stem cell 'breakthrough data inappropriately handled'

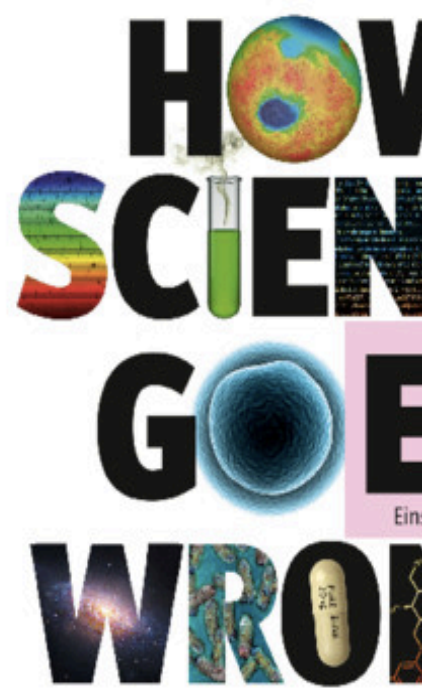
By James Gallagher
Health and science reporter, BBC News

14 March 2014 | Health

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Washington
How to do a
Investment
Junk bonds
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University of Dundee scientist resigns after research misconduct



REUTERS

Dr Haruko Obokata presented the breakthrough findings in January

What is research misconduct?

Fabrication

Making up of data or results.

Falsification

Omission or modification of data or results.

Plagiarism

Appropriation of the work of others—words, text, data, results, ideas—without giving appropriate credit. Also **self-plagiarism!**

What is research misconduct?

Plan	<ul style="list-style-type: none">Biased design: selecting methods/controls that favor resultsFailure to disclose conflicts of interestToo small sample size
Conduct	<ul style="list-style-type: none">Failure to follow protocols, e.g. human or animal subject researchInadequate procedures for managing/storing data. SloppinessInadequate supervision of lab members
Interpret	<ul style="list-style-type: none">Inappropriate statistical methodsImproper selection of data & controls: cherry picking outliers & negative results; adding data points to a curveUnjustified or unsupported conclusions
Publish	<ul style="list-style-type: none">Statistical tricks to obtain statistical significance (P-hacking)Salami slicingAuthorship issues – e.g. honorary and ghost authorshipImage manipulation or beautification; reuse and relabeling of images
Review	<ul style="list-style-type: none">Failure to maintain confidentialityStealing ideas or text from a manuscriptBias toward or against particular colleagues or fields

(adapted from N. Steneck)

A thin line

Sloppiness

Non-compliance

Lack of oversight

Ignorance of
regulations

Misconduct



Consequences for science?

Adds wrong or useless results to the scientific record

Wastes resources

Reduces public trust

Endangers public funding

Consequences for society?

Measles outbreak across Europe

28 March 2017 | Health

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SPL

**measles in Germany; first
break**

NY Daily news, 2015

BBC news, 28 March 2017

Measles is spreading across Europe wherever immunisation coverage has dropped, the World

**Italian papers on genetically modified crops
under investigation**

Work that describes harm from crops was cited in Italian Senate hearing.

Nature, 2016

Consequences for society?

Endangers people's lives

Endangers the environment

Could impact negatively on policy and legislation

Causes of misconduct

jobs
publish
incentives
competition
rewards
awards
grants

Responsibilities

Responsibilities

- ✓ Researchers
- ✓ Evaluators
- ✓ Journals/editors/publishers
- ✓ Funders
- ✓ Research administrators
- ✓ Policy makers

EMBO's efforts in fostering RI

EMBO's efforts in fostering RI



RI training required for Long-Term Fellows and Young Investigators
Signatory of DORA
International discussions on Open Science



Transparent peer-review process
Encourage source data sharing
Pre-publication image screening
Author checklists

EMBO Science
Policy programme

Workshops on research integrity
On-line training in research integrity
Discussions with other funders on policy measures to foster RI
Discussions on how to facilitate the handling of allegations of misconduct
Contributions to World Conferences on Research Integrity



Workshops on research integrity



EMBO Workshop on Research Integrity

21 November 2017 | Academia Sinica, Taiwan



About the workshop

A one-day interactive workshop for post-docs and PIs on responsible conduct of research and good practices in the life sciences.

REGISTRATION

To register, please contact:

Ms. Shu-Ting Chung



Workshops on research integrity

Aims

- Raise awareness
- Foster discussions locally
- Foster responsible research practices
- Engage the EMBO community

Topics

- Responsible conduct of research
- Research misconduct
- Policy issues in data management
- Publication issues
- Conflicts of Interest
- Supervisor's responsibilities
- Human subject research
- Research with animals

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Thank you

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