

# Research Integrity

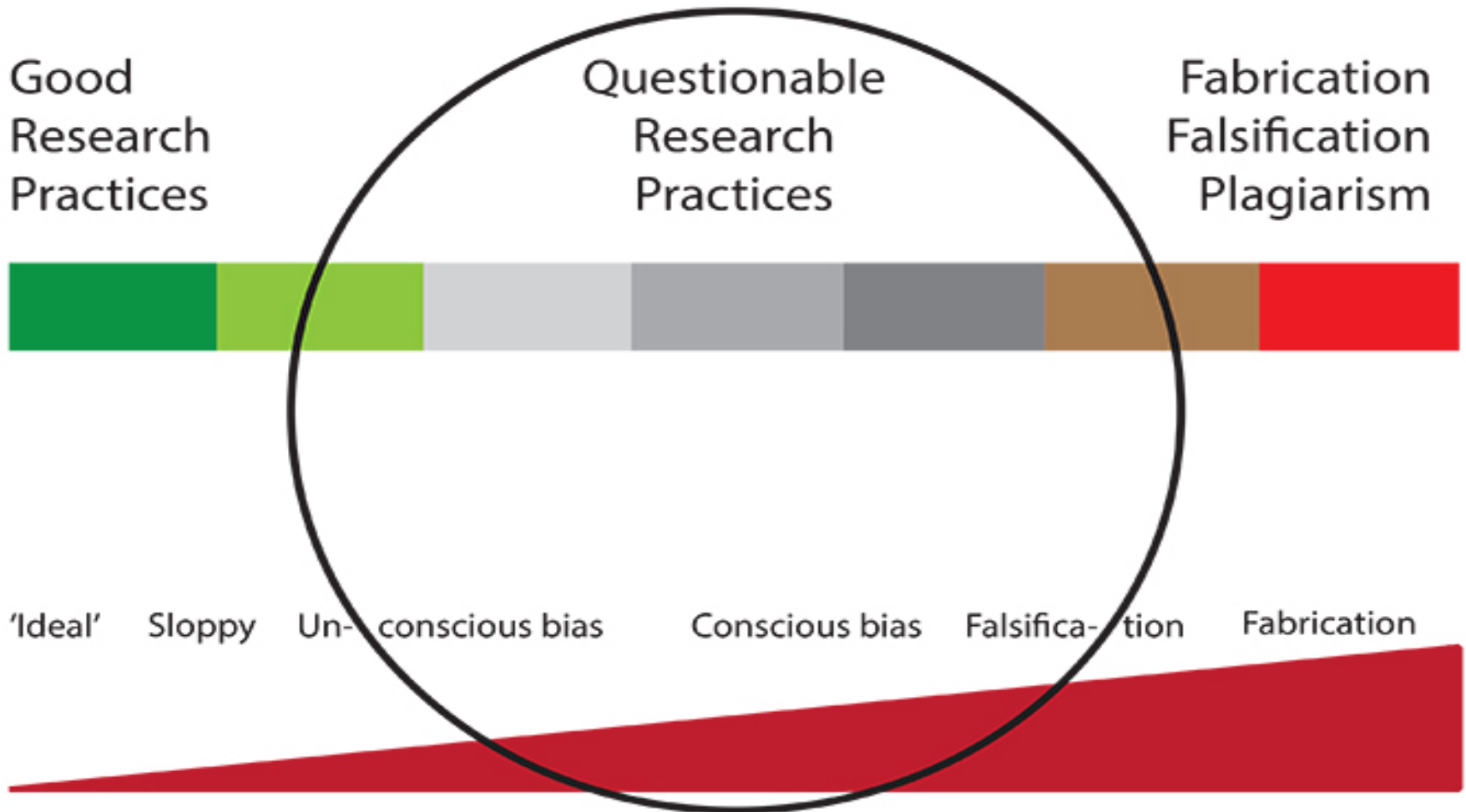


Source: Erasmus MC



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# What's it about



# Bad apples in the science basket

- 09/2011 D. Stapel – social psychology – fraud with research data in 55 articles & 10 book chapters
- 11/2011 Medical - non verifiable collection of research data
- 11/2011 Don Poldermans – doctor of internal & vascular medicine – made up data in a number of studies
- 06/2012 Dirk Smeesters – psychology - selective datasampling
- 03/2013 neuroscientist - made up data in research
- 05/2013 Patrick Van Calster – law & criminology – plagiarism in phd
- 08/2013 rheumatologist – falsification of research data in the lab
- 09/2013 Mart Bax – political antropologist – makes up stories in articles & achievements on CV

Top drie van academische sjoemelaars



YOSHITAKA FUJII	JOACHIM BOLDT	DIEDERIK STAPEL
● 52 jaar	● 58 jaar	● 46 jaar
● Japane anesthesist	● Duitse anesthesist	● Nederlandse socioloog
● Moest <b>172</b> publicaties intrekken	● Moest <b>88</b> publicaties intrekken	● Moest <b>55</b> publicaties intrekken
● Pas 12 jaar na eerste verdenking ontslagen	● Knoelde onder meer met patiëntaantallen	● Fraudeerde op grote schaal met gegevens

Source: De Morgen, 'Wetenschappelijke fraudeur krijgt levenslang' (Eline Delrue), 23/03/2013, pg.7

# Some numbers

- FFP

(Fanelli, PloS ONE, 2009, p.1)

*“A pooled weighted average of 1.97% (N = 7, 95%CI: 0.86–4.45) of scientists admitted to have fabricated, falsified or modified data or results at least once –a serious form of misconduct by any standard [...]. In surveys asking about the behaviour of colleagues, admission rates were 14.12% (N = 12, 95% CI: 9.91–19.72) for falsification [...].”*

(Translated from EOS, April 2013, p.25)

*“From 315 researchers who completed an extensive survey, 4 admit to having fabricated data one or several times in the last three years (1,3%).”*

## QRP

(Fanelli, PloS ONE, 2009, p.1)

*“[...] and up to 33.7% admitted other questionable research practices. [In surveys asking about the behaviour of colleagues, admission rates were] up to 72% for other questionable research practices.”*

(Translated from EOS, April 2013, p.28) *“[...] 69% admit that he/she added at least one coauthor without that person having a real input in the past three years” (gift authorship)*

(Translated from EOS, April 2013, p.26) *“[...] [27% of the respondents admit to have left out data or observations based on a gut feeling]”*

...

**Table 1 | Percentage of scientists who say that they engaged in the behaviour listed within the previous three years (n = 3,247)**

Top ten behaviours	All	Mid-career	Early-career
1. Falsifying or 'cooking' research data	0.3	0.2	0.5
2. Ignoring major aspects of human-subject requirements	0.3	0.3	0.4
3. Not properly disclosing involvement in firms whose products are based on one's own research	0.3	0.4	0.3
4. Relationships with students, research subjects or clients that may be interpreted as questionable	1.4	1.3	1.4
5. Using another's ideas without obtaining permission or giving due credit	1.4	1.7	1.0
6. Unauthorized use of confidential information in connection with one's own research	1.7	2.4	0.8 ***
7. Failing to present data that contradict one's own previous research	6.0	6.5	5.3
8. Circumventing certain minor aspects of human-subject requirements	7.6	9.0	6.0 **
9. Overlooking others' use of flawed data or questionable interpretation of data	12.5	12.2	12.8
10. Changing the design, methodology or results of a study in response to pressure from a funding source	15.5	20.6	9.5 ***
<b>Other behaviours</b>			
11. Publishing the same data or results in two or more publications	4.7	5.9	3.4 **
12. Inappropriately assigning authorship credit	10.0	12.3	7.4 ***
13. Withholding details of methodology or results in papers or proposals	10.8	12.4	8.9 **
14. Using inadequate or inappropriate research designs	13.5	14.6	12.2
15. Dropping observations or data points from analyses based on a gut feeling that they were inaccurate	15.3	14.3	16.5
16. Inadequate record keeping related to research projects	27.5	27.7	27.3

Note: significance of  $\chi^2$  tests of differences between mid- and early-career scientists are noted by \*\* ( $P < 0.01$ ) and \*\*\* ( $P < 0.001$ ).

# Who are they, what moves them? Causes

(Kornfeld, Academic Medicine, 2012)

Typology: 6 types

=> result of the interaction of psychological traits and/or states and the circumstances in which these individuals found themselves



“the desperate”

whose fear of failure overcame a personal code of conduct



"Hey hon, I finally finished writing the first line of my book! It took me three months, but it's the **BEST FIRST LINE EVER!!** Wanna hear it? Hon?!"

INKYGIRL.COM: Daily Diversions For Writers  
Copyright © 2008 Debbie Ridpath Ohi

“the perfectionist”

for whom any failure was a catastrophe

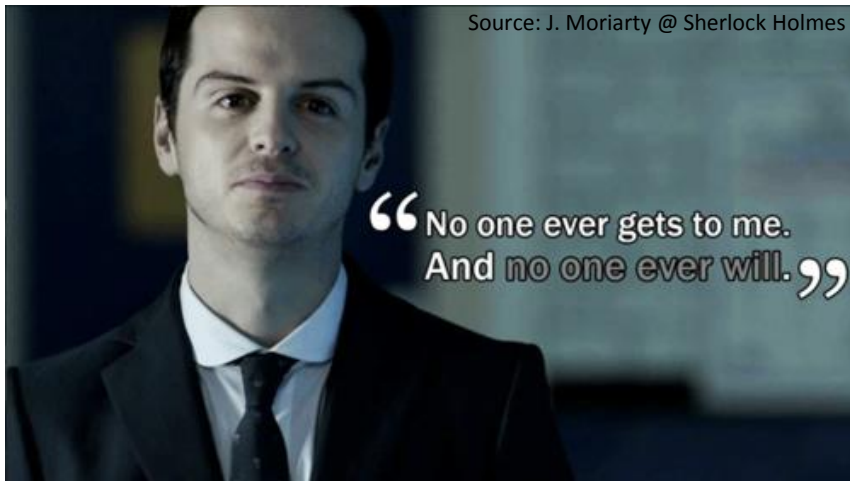


“the ethically challenged “  
who succumbed to temptation



“the grandiose”  
who believed that his or her superior  
judgment did not require verification





“the sociopath”

who was totally absent a conscience (and, fortunately, was rare)



“the non professional support staff”  
who were unconstrained by the ethics of science,  
unaware of the scientific consequences of their  
actions, and/or tempted by financial rewards



Source: cuppacafe.com

**PRESSURE**



Source: neatorama.com

**LOW DETECTION**

Myth of self correction

# Looking for answers

## Code of conduct

- The Singapore Statement on Research Integrity (WCRI)
- The European Code of Conduct for Research Integrity (European Science Foundation – All European Universities)
- The European Charter for Researchers (European Commission)
- Fostering Research Integrity in Europe (European Science Foundation)
- Code of Practice for Research: Promoting good practice and preventing misconduct (UK Research Integrity Office)
- The concordat to support research integrity (Universities UK)
- ....

# The 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

**1. Integrity:** Researchers should take responsibility for the trustworthiness of their research.

**2. Adherence to Regulations:** Researchers should be aware of and adhere to regulations and policies related to research.

**3. Research Methods:** Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence and report findings and interpretations fully and objectively.

**4. Research Records:** Researchers should keep records of all research in ways that will facilitate replication of their work by others.

**5. Research Findings:** Researchers should report findings openly and promptly, as soon as possible, and provide an opportunity to establish priority and ownership.

**6. Authorship:** Researchers should take responsibility for their contributions to all publications, funding applications, reports and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria.

**7. Publication Acknowledgement:** Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors, and others, but do not meet authorship criteria.

**8. Peer Review:** Researchers should provide fair, prompt and rigorous evaluations and respect confidentiality when reviewing others' work.

**9. Conflict of Interest:** Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications and public communications as well as in all review activities.

**10. Public Communication:** Researchers should limit professional comments to their recognized expertise when engaged in public discussions about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.

**11. Reporting Irresponsible Research Practices:** Researchers should report to the appropriate authorities any suspected research misconduct, including fabrication, falsification or plagiarism, and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improperly listing authors, failing to report conflicting data, or the use of misleading analytical methods.

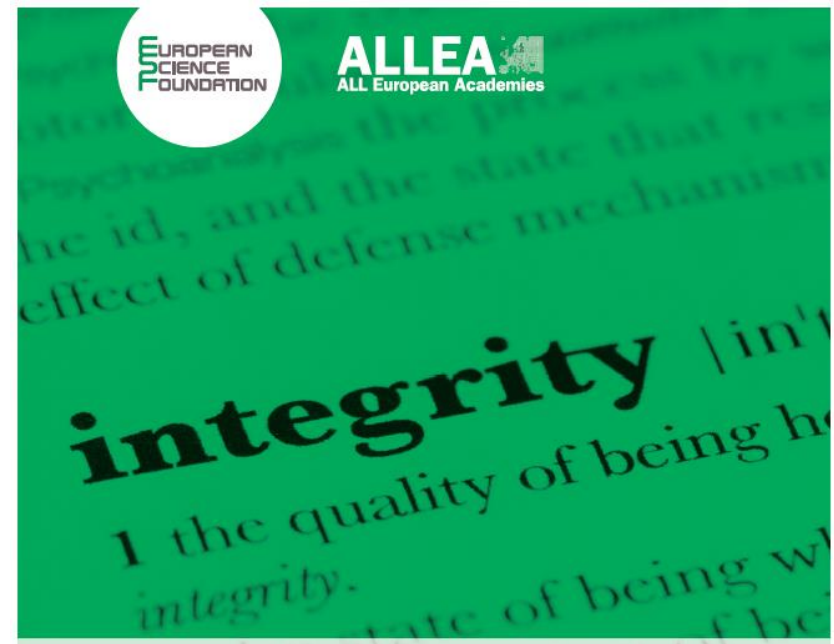
**12. Responding to Irresponsible Research Practices:** Research institutions, as well as journals, professional organizations and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behavior in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record.

**13. Research Environments:** Research institutions should create and sustain environments that encourage integrity through education, clear policies, and reasonable standards for advancement, while fostering work environments that support research integrity.

**14. Societal Considerations:** Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against risks inherent in their work.

# The European Code of Conduct for Research Integrity

- *Honesty* in presenting research goals and intentions, in precise and nuanced reporting on research methods and procedures, and in conveying valid interpretations and justifiable claims with respect to possible applications of research results.
- *Reliability* in performing research (meticulous, careful and attentive to detail), and in communication of the results (fair and full and unbiased reporting).
- *Objectivity*: interpretations and conclusions must be founded on facts and data capable of proof and secondary review; there should be transparency in the collection, analysis and interpretation of data, and verifiability of the scientific reasoning.
- *Impartiality and independence* from commissioning or interested parties, from ideological or political pressure groups, and from economic or financial interests.
- *Open communication*, in discussing the work with other scientists, in contributing to public knowledge through publication of the findings, in honest communication to the general public. This openness presupposes a proper storage and availability of data, and accessibility for interested colleagues.
- *Duty of care* for participants in and the subjects of research, be they human beings, animals, the environment or cultural objects. Research on human subjects and animals should always rest on the principles of respect and duty of care.
- *Fairness*, in providing proper references and giving due credits to the work of others, in treating colleagues with integrity and honesty,
- *Responsibility for future science generations*. The education of young scientists and scholars requires binding standards for mentorship and supervision.



# Code of Ethics for Scientific Research in Belgium

- °2008
- Signed by Ghent University in 2009
- Leading document for daily research practice
- Basic values for all disciplines

**Did you make the  
right choice?**



**✓ Check the code.**

Source: city of Calgary



# CODE: Rigour & caution

## RIGOUR

- Take into account the latest state of the art in their domain
- Sufficient control over the implementation of the research by team members
- Present research results in a truthful and comprehensible way. Avoid arousing unjustified fears or hopes
- Participate in peer review
- ...

## CAUTION

- Show respect for the subjects/respondents of experiments, investigations and surveys
- Respect local culture and environment in research abroad and take into account foreign codes and rules
- Take responsibility for any errors or omissions, damage to third parties, and pursue maximal compensation

...



# CODE: Reliability and verifiability

## RELIABILITY

- Present expertise, work and results as accurately as possible and avoid creating a misleading or overrated idea of your work
- Don't leave out unwanted or non corresponding results in publications
- The general principles in terms of intellectual property must be respected
- Don't submit the same text simultaneously in several scientific journals for evaluation or publication
- ...

## VERIFIABILITY

- Make sure other researchers can verify the accuracy of the process and reproduce it by describing every step in detail
- The primary data of a research project and the protocols must be kept and made accessible during a determined and sufficient period of time
- ...





# CODE: Independence and impartiality

## INDEPENDENCE

- Commissioned scientific research is carried out without interventions from the sponsor during the execution of the scientific work entrusted to the researcher
- Relations of/with the researcher are mentioned in the publication
- Elaborate clear contractual conventions, as regards, among other things, the freedom of publication and the ownership of the results
- ...

## IMPARTIALITY

- Make a clear distinction between scientific judgements and personal preferences
- In peer review, only be guided by considerations of a scientific order
- Any disagreements with the scientific views of other researchers will only be discussed on the basis of scientific arguments
- ...

# Looking for answers

## Policy Plan RI@GU

- ▣ Personeelsadministratie
- ▣ **Op het werk**
  - ▣ Aankopen
  - ▣ Activiteiten organiseren
  - ▣ Bibliotheek
  - ▣ Communicatie
  - ▣ Financiële administratie
  - ▣ Gebouwen en logistiek
  - ▣ Huisstijl
  - ▣ Informatica en telefonie
  - ▣ Mobiliteit
- ▣ **Onderzoek en onderwijs**
  - ▣ PermanentieCentrum
  - ▣ Raden en commissies
  - ▣ Reglementen
  - ▣ Telewerken: pilootproject
  - ▣ Verzekeringen
  - ▣ Welzijn en milieu
- ▣ **Naast het werk**

### Wetenschappelijke integriteit

Academisch onderzoek dankt zijn legitimiteit aan de kwaliteit van de uitvoering. Tal van stakeholders (burgers, overheid, industrie, middenveld, ...) rekenen op de wetenschap voor objectieve en genuanceerde kennisaccumulatie op het hoogste niveau. Als toonaangevende onderzoeksinstelling zet de UGent zich dagelijks in om deze kwaliteitseisen te handhaven, te verbeteren en te verfijnen. **Kwaliteitszorg** is voor de UGent een centraal begrip.

Binnen het streven naar kwaliteit in onderwijs en onderzoek neemt wetenschappelijke integriteit een belangrijke plaats in. Het **'Beleidsplan Wetenschappelijke Integriteit'** biedt een kader voor het handhaven en bevorderen van de integriteit in de onderzoekspraktijk.

Het beleidsplan promoot een **preventief tweesporenbeleid** gericht op:

1. het stimuleren van 'Good Research Practices' die zowel voor de individuele onderzoeker, het onderzoek als de onderzoeksomgeving een kwalitatieve verbetering teweegbrengen
2. het verbeteren van de algemene kwaliteitscultuur door de implementatie van een [Beleidsplan Onderzoek](#) gericht op het streven naar excellentie met aandacht voor de noodzakelijke evenwichten.

Recente fraudegevallen over de hele wereld hebben tevens de noodzaak aangeduid van een **repressief beleid als ultimatum remedium**. De universiteit voorziet in de nodige procedures en mechanismen om op te treden tegen onderzoekers in het geval van inbreuken op de wetenschappelijke integriteit.

#### Wetenschappelijke Integriteit @UGent

De UGent gaat uit van de individuele verantwoordelijkheid van iedere betrokkene en verruimt haar eigen engagement via een institutioneel beleidsplan:

- [4 kernwaarden](#)
- [Doelstellingen](#)
- [Fact sheets](#) (afgewerkte en lopende initiatieven)
- [Werkgroepen](#)

#### Wetenschappelijke Integriteit @World

De UGent onderschrijft de [Ethische Code voor Wetenschappelijk Onderzoek in België](#).

Ook wereldwijd worden de principes ter bevordering van de integere beoefening van de wetenschap vastgelegd en sensibiliseringscampagnes opgezet.

[Meer lezen...](#)

#### Wat te doen bij vermoeden van inbreuk?

Een vermoeden uiten is vaak een ingrijpende stap waar tal van twijfels en/of vragen mee gepaard gaan. [Volgende tips helpen je op weg.](#)

#### Commissie Wetenschappelijke Integriteit (CWI)

Bij vermoedens van fraude of wetenschappelijk wangedrag kan steeds melding worden gedaan bij de [Commissie Wetenschappelijke Integriteit \(CWI\)](#).

#### Toolbox

Wetenschappelijke integriteit zit vervat in de dagelijkse onderzoekspraktijk:

- [Training](#)
- [Publicatiebeleid](#)
- [Datamanagement](#)
- [Auteursrecht](#)

Verder is er allerhande [\(communicatie\)materiaal en achtergrondinfo](#) voorhanden voor wie zelf aan de slag wil.

#### Contact

Iedereen die vragen heeft rond wetenschappelijke integriteit en/of de procedure voor de CWI kan advies en inlichtingen verkrijgen bij de **Research Integrity Advisor**. Dit gebeurt via e-mail [CWI@UGent.be](mailto:CWI@UGent.be) of per post:

# Policy Plan RI@UG

- Positive implementation: enhancing quality
- Wide implementation: fraud + sloppy science
- Focus
  - Proactive two-track policy
    - Shaping and encouraging “good practices of science”
    - Improving general quality culture
  - Zero tolerance policy
- Integrated part of daily practice
- Inclusive for all levels and across all disciplines
- Universal values
- Discipline translation own needs and questions
- Bottom up – involvement
- Structural embedding



Source: [www.advisortweets.com](http://www.advisortweets.com)



Fostering Responsible conduct of research FRCR

4x/py – 2/ps

Check DS Newsletter for new dates in Autumn!



FRCR – custom made workshop

G. R. EVANS

THE GOOD,  
THE BAD &  
THE MORAL  
DILEMMA



Dilemmas in science

## DILEMMA

A close friend asks me to comment on his paper. While reading the paper I detect a great number of similarities with some recently published papers. The similarities do not constitute plagiarism in a literal sense, but are noticeable. When confronting my friend with my findings he seems unimpressed and submits his paper to an international journal without any profound changes. A couple of weeks later I receive the request from the journal to act as a referee on this particular paper.

What do I do?



## OPTIONS

- A. I decline the invitation.
- B. I accept the invitation but in my review do not mention the similarities I noticed before.
- C. I accept the invitation and report the similarities.
- D. I ask my friend what he wants me to do.

# CODE OF ETHICS

*By participating in peer review, the researcher should only be guided by considerations of a scientific order. The **confidentiality** of the information should be guaranteed.*

*The assessment of manuscripts for scientific journals must be carried out in an **impartial manner** and within a reasonable deadline.*

*The general principles in terms of **intellectual property** must be respected. Researchers may not present fieldwork, data and results obtained by other researchers as their own; they must **not plagiarise** other people's publications.*



# RI & publishing

## Samenvatting van de verschillen tussen samenvatten, parafraseren en citeren

Samenvatten	Parafraseren	Citeren
Je moet verwijzen naar de oorspronkelijke bron	Je moet verwijzen naar de oorspronkelijke bron	Je moet verwijzen naar de oorspronkelijke bron
De tekst van de samenvatting is veel korter dan de originele tekst	De tekst kan zowel korter als langer zijn dan het origineel	De tekst is precies evenlang als het origineel
Je gebruikt je eigen woorden en citeert zo weinig mogelijk	Je gebruikt je eigen woorden	Je gebruikt precies dezelfde woorden als in het origineel
		Plaats de tekst tussen aanhalingstekens
		Verwijs naar de bladzijde in de originele tekst

Source: <http://www.vanderkaap.org/histoforum/2009/citeren.html>



*“Plagiarism is any identical or lightly-altered use of one's own or someone else's work (ideas, texts, structures, images, plans, etc.) without adequate reference to the source.”*

- *The literal or near-literal use of someone else's text(s) (or parts of these) irrespective of the source (including digital sources, whether or not through the internet) without indicating a citation (for example, through quotation marks) and / or without adequate reference to the source*
- *Copying images, diagrams, graphics, figures, sound or image fragments, etc., without adequate reference to the source*
- *Paraphrasing someone else's arguments without adequate reference to the source*
- *Translating texts without adequate reference to the source*

## *2 special forms*

- *Commissioning or having papers revised (whether or not for pay), and passing this off as one's own work (ghost writing)*
- *The re-use of one's own work and passing it off as a new paper (“zelfplagiat”)*

# Retraction Watch



Current Issue > vol. 109 no. 42 > Ferric C. Fang, 17028–17033, doi: 10.1073/pnas.1212247109



## Misconduct accounts for the majority of retracted scientific publications

Ferric C. Fang<sup>a,b,1</sup>, R. Grant Steen<sup>c,1</sup>, and Arturo Casadevall<sup>d,1,2</sup>

Author Affiliations

Edited by Thomas Shenk, Princeton University, Princeton, NJ, and approved September 6, 2012 (received for review July 18, 2012)


A correction has been published


Abstract Full Text Authors & Info Fig SI Metrics Related Content +SI

# ephorus

specialized in the prevention of plagiarism

<https://icto.ugent.be/en/node/57>

 CrossMark STATUS

 **Updates are available for this document.**

**Correction dated 2012-10-16:**  
<http://dx.doi.org/10.1073/pnas.1220649110>

This document is maintained by the publisher.

**Document:** Misconduct accounts for the majority of retracted scientific pub...

**Publication:** Proceedings of the National Academy of Sciences

**Published:** 2012-10-01

**CrossRef DOI Link to Publisher-Maintained Copy:**  
<http://dx.doi.org/10.1073/pnas.1212247109>

**CrossMark Policy:** Proceedings of the National Academy of Sciences





## DILEMMA

A good colleague from my department makes me the following offer: If I make him co-author on my next article and he will do the same for me. We are both coming up for tenure soon, and my colleague has been particularly overloaded with teaching tasks. To the outside world, the coauthorships will not seem illogical, as we are doing research on similar topics.

What do I do?

## OPTIONS

- A. I let him be a co-author on my article but I do not want to be co-author of his article.
- B. I accept the offer, on the condition that we both critically read each other's paper.
- C. I ask advice from my superior, who also happens to be the professor responsible for my colleague.
- D. I decline the offer and report the unethical behavior to the head of our department.

# CODE OF ETHICS

*People who have collaborated on a research project must be correctly cited; only those who have **actually contributed to the research** may be mentioned as (co-)authors.*



Source: www.communityfoundation.org.uk



Source: best-buy-bakeware.wooshop.co.uk

<http://www.ugent.be/bw/nl/onderzoek/a1-publicaties/auteurschap.htm>

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## Defining the Role of Authors and Contributors





## DILEMMA

I have run an unsuccessful experiment. The results are very different from any of the earlier experiments. I am disappointed because I had carefully designed all the manipulations and stimuli, and the previous (same) experiments that I ran for the same project had worked out. I am now writing the paper.

What do I do?



## OPTIONS

- A. I fully report the failed experiment as one of the main studies in the paper and speculate about the potential reasons behind the unsuccessful results in the discussion section.
- B. I mention the unsuccessful experiment in one sentence and ask the interested readers to contact me for more details.
- C. I do not mention the unsuccessful experiment anywhere.
- D. I leave out the unsuccessful experiment from the paper, but mention it in the cover letter to the editor and suggest it can be included if so desired.

# CODE OF ETHICS

*The research results must appear in full in publications and unwanted results must **not be selectively omitted**. Results which do **not correspond to the stipulated hypotheses must always be mentioned** in the publication of the research results. The level of uncertainty and the limits of the results must appear clearly in the publications, presentations and reports.*

*The information given should be **verifiable**. The results [...], are described in detail (in a research logbook, a laboratory diary or a progress report) so that other researchers can verify the accuracy of the process and **reproduce** it. [...] All the agreements and decisions must be written down and saved. The **primary data** of a research project and the protocols **must be kept and made accessible** during a determined and sufficient period of time.*

## Personelsadministratie

## Op het werk

- Aankopen
- Activiteiten organiseren
- Bibliotheek
- Communicatie
- Financiële administratie

Info Je bent aangemeld. Info op jouw maat vind je op de studentensite of op het intranet voor personeel.

## Datamanagement



Een goede omgang met onderzoeksdata is een essentieel onderdeel van het onderzoeksproces. Dit is niet enkel belangrijk vanuit het oogpunt van onderzoeksorganisatie en -samenwerking maar ook vanuit het oogpunt van wetenschappelijke integriteit (transparantie van methodiek, reproduceerbaarheid, verifieerbaarheid en hergebruik).

[Meer achtergrondinformatie over het waarom van datamanagement](#)

Datamanagementplan (DMP):  
MAKE ONE (and keep it up-to-date)!

DMPonline.be

8/3/2016 workshop RDM (Apollo)

<https://www.ugent.be/intranet/nl/op-het-werk/onderzoek-onderwijs/onderzoek/beleid/datamanagement>

## WHAT CAN DATACITE DO FOR YOU?



### CITE YOUR DATA

Data citation is fundamental as it enables easy reuse and verification of data, making it possible to track and quantify the impact of data. Citation creates a...



### FORMAT YOUR CITATION

Use the DOI Citation Formatter, a service created in collaboration with CrossRef, to format your citation, ensuring you adopt the correct format for your needs...



### FIND A REPOSITORY

DataCite supports all researchers looking to deposit and/or find data, in collaboration with re3data.org.



### FIND A DATASET

DataCite Metadata Search is a service that allows people to search for datasets registered with DataCite, via the metadata associated with the datasets.



### GET YOUR DOI STATISTICS

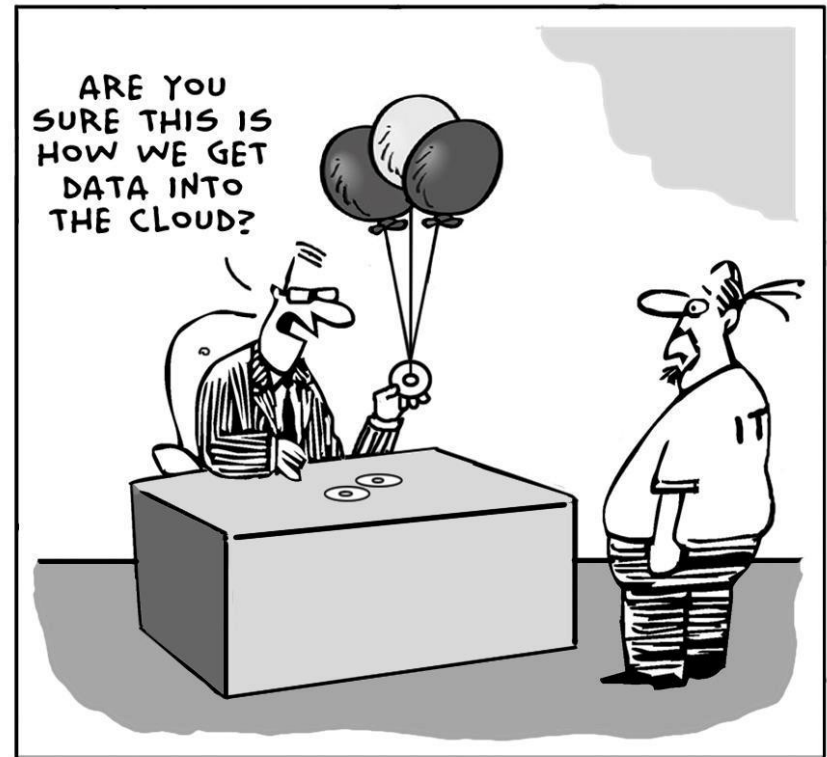
DataCite provides statistics for members on DOI registrations and DOI resolutions, filtered by Allocator, Data Center or Prefix.

<https://www.datacite.org/>

# Data storage – data sharing

## Safe long term data storage

- Local storage = RISK
- Central infrastructure!
  - Network drive
  - Share
- Information Safety Advisor – Michel Raes



# Ghent University recommendations

- *At the moment of submitting the proposal, the promotor and the candidate are required to confirm that all necessary measures have been taken to protect intellectual property and to archive materials (biological material\*, databases, lab note books, ...) according to good scientific practice.*
- *biological material (plasmids, bacteria, fungi, yeast, diatoms, cell lines, ...) that has been generated as part of the PhD study must preferably be deposited in a culture collection, either as a public deposit in the interest of the broader scientific community or as a safe or patent deposit.*
- *It is advised to make reference in your PhD thesis and in your publications to the publicly deposited biological material by means of the accession number that you receive from the culture collection upon deposit."*
- *For your info: you can find non-exhaustive lists of non-profit repositories on the web sites of the European Culture Collections' Organisation (ECCO, [www.eccosite.org](http://www.eccosite.org))*
- *and the World Federation for Culture Collections (WFCC; [www.wfcc.info](http://www.wfcc.info)). The Ghent University hosts three repositories, namely the BCCM/DCG Diatoms Collection, the BCCM/LMBP Plasmid Collection (also accepting cell lines, hybridoma's and other genetic material in the safe and patent deposit collection) and the BCCM/LMG Bacteria Collection which are partners of the Belgian Co-ordinated Collections of Micro-organisms (BCCM; <http://bccm.belspo.be>).*

## Browse by subject

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[Analytical Chemistry, Method Development \(Chemistry\)](#)

[Anatomy](#)

[Ancient Cultures](#)

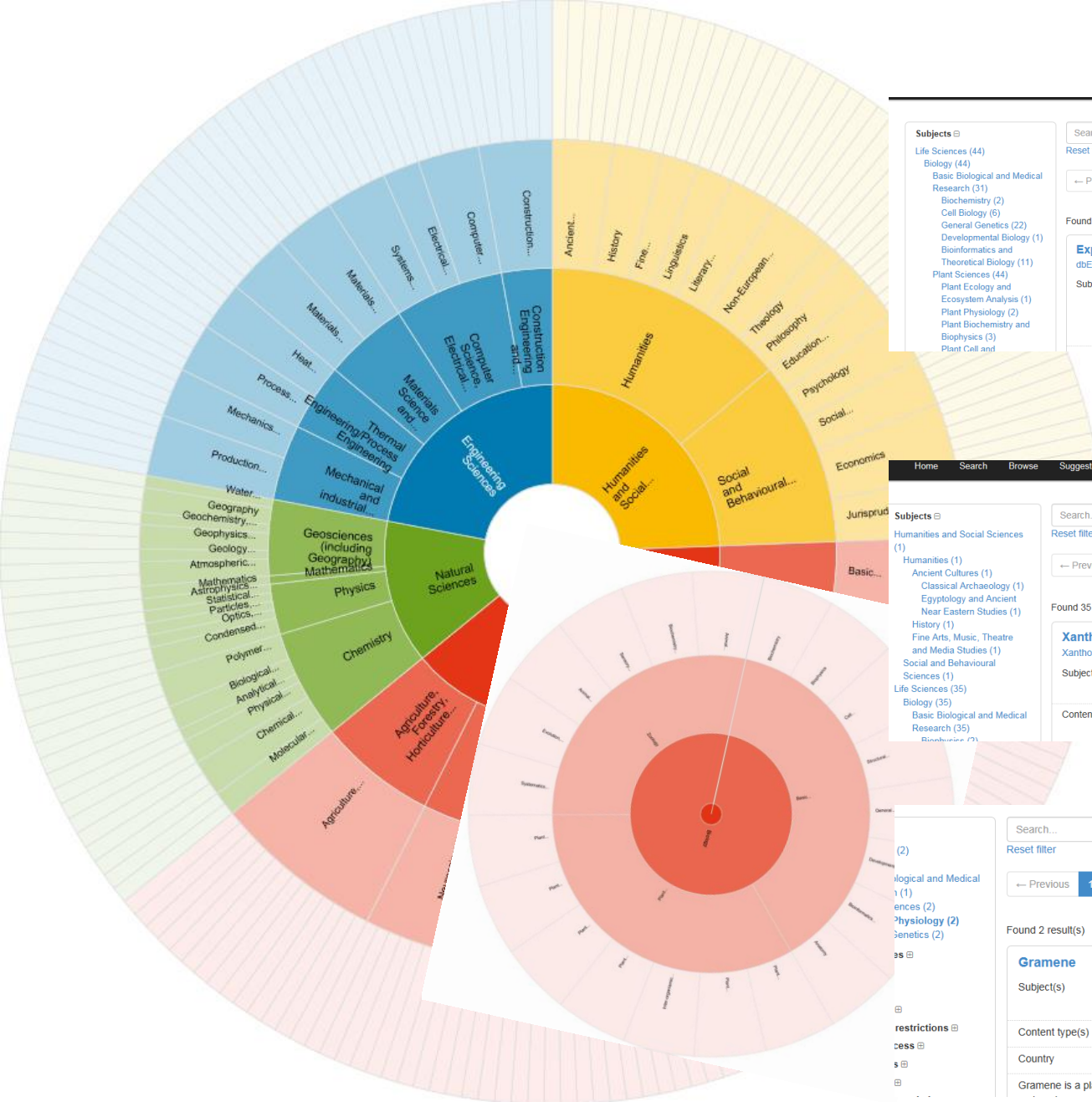
[Ancient History](#)

[Animal Ecology, Biodiversity and Ecosystem Research](#)

[Animal Genetics, Cell and Developmental Biology](#)

[Architecture, Building and Construction History, Sustainable Building Technology,  
Building Design](#)

! Caution: privacy, data safety, ownership, informed consent, valorisation



**Subjects** ⊖

Life Sciences (44)  
Biology (44)  
Basic Biological and Medical Research (31)  
Biochemistry (2)  
Cell Biology (6)  
General Genetics (22)  
Developmental Biology (1)  
Bioinformatics and Theoretical Biology (11)  
Plant Sciences (44)  
Ecosystem Analysis (1)  
Plant Physiology (2)  
Plant Biochemistry and Biophysics (3)  
Plant Cell and

Search...  Toggle short help

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← Previous **1** 2 Next →

Sort by ▾

Found 44 result(s)

**Expressed Sequence Tags database**

dbEST

Subject(s)

General Genetics Plant Genetics Animal Genetics, Cell and Developmental Biology  
Human Genetics Bioinformatics and Theoretical Biology  
Basic Biological and Medical Research Biology Life Sciences Plant Sciences  
Zoology Medicine Medicine

Plant genetics

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**Subjects** ⊖

Humanities and Social Sciences (1)  
Humanities (1)  
Ancient Cultures (1)  
Classical Archaeology (1)  
Egyptology and Ancient Near Eastern Studies (1)  
History (1)  
Fine Arts, Music, Theatre and Media Studies (1)  
Social and Behavioural Sciences (1)  
Life Sciences (35)  
Biology (35)  
Basic Biological and Medical Research (35)  
Biophysics (2)

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Sort by ▾

Found 35 result(s)

**Xanthobase**

Xanthomonas oryzae pv. oryzae genome database

Subject(s)

Life Sciences Cell Biology General Genetics Plant Biochemistry and Biophysics  
Plant Genetics Basic Biological and Medical Research Biology Plant Sciences

Content type(s)

Structured graphics Networkbased data Raw data  
Scientific and statistical data formats

Cell biology

**Subjects** ⊖

Basic Biological and Medical Research (1)  
Genetics (2)  
Plant Physiology (2)  
Genetics (2)

Search...  Toggle short help

Reset filter

← Previous **1** Next →

Sort by ▾

Found 2 result(s)

**Gramene**

Subject(s)

Basic Biological and Medical Research Plant Genetics Plant Physiology Biology  
Life Sciences Plant Sciences

Content type(s)

Structured text Structured graphics Scientific and statistical data formats

Country

United States United Kingdom

Gramene is a platform for comparative genomic analysis of agriculturally important grasses, including

Plant physiology



## Ensembl Plants

e!EnsemblPlants



### Subject(s)

Basic Biological and Medical Research   General Genetics   Plant Genetics  
Plant Sciences   Biology   Life Sciences

### Content type(s)

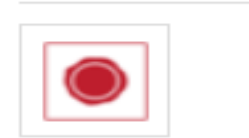
Standard office documents   Structured graphics   Images  
Scientific and statistical data formats   Raw data   Archived data   Plain text   other

### Country

United Kingdom   European Union   United States

EnsemblPlants is a genome-centric portal for plant species. Ensembl Plants is developed in coordination with other plant genomics and bioinformatics groups via the EBI's role in the transPLANT consortium.

# Trusted repositories



Eg. Data Seal of Approval guidelines

The 16 Data Seal of Approval [guidelines](#) are based on the following five criteria:

- The data can be found on the Internet
- The data are accessible (clear rights and licences)
- The data are in a usable format
- The data are reliable
- The data are identified in a unique and persistent way so that they can be referred to

Found 2 result(s)

## Gramene



Subject(s)

Basic Biological and Medical Research Plant Genetics Plant Physiology Biology  
Life Sciences Plant Sciences



Content type(s)

Structured text Structured graphics Scientific and statistical data formats

Country

United States United Kingdom

Gramene is a platform for comparative genomic analysis of agriculturally important grasses, including maize, rice, sorghum, wheat and barley. Relationships between cereals are queried and displayed using controlled vocabularies (Gene, Plant, Trait, Environment, and Gramene Taxonomy) and web-based displays, including the Genes and Quantitative Trait Loci (QTL) modules.



## Phytozome



The JGI Comparative Plant Genomics Portal

Subject(s)

Plant Genetics Plant Physiology Plant Sciences Biology Life Sciences



The research data repository provides open access to its data.



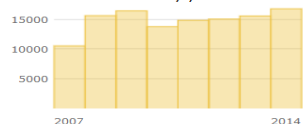
The research data repository provides restricted access to its data.



The research data repository provides closed access to its data.

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monthly

## Deposit mandate and Open Access



Ghent University has implemented an *Im* mandate for scientific publications as of p only publications with an electronic full-te: More information about the mandate can Moreover, UGent asks to make the full-te An Open Access publication is available or costs and without loss of quality.

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## Department

Non UGent Publication

Department/Affiliation\* 

Project 


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full text  
table of contents  
colophon/title page  
dataset  
data factsheet  
peer review report

Access

**SHER**  
**RoMEO** check publisher self-archiving policy with Romeo

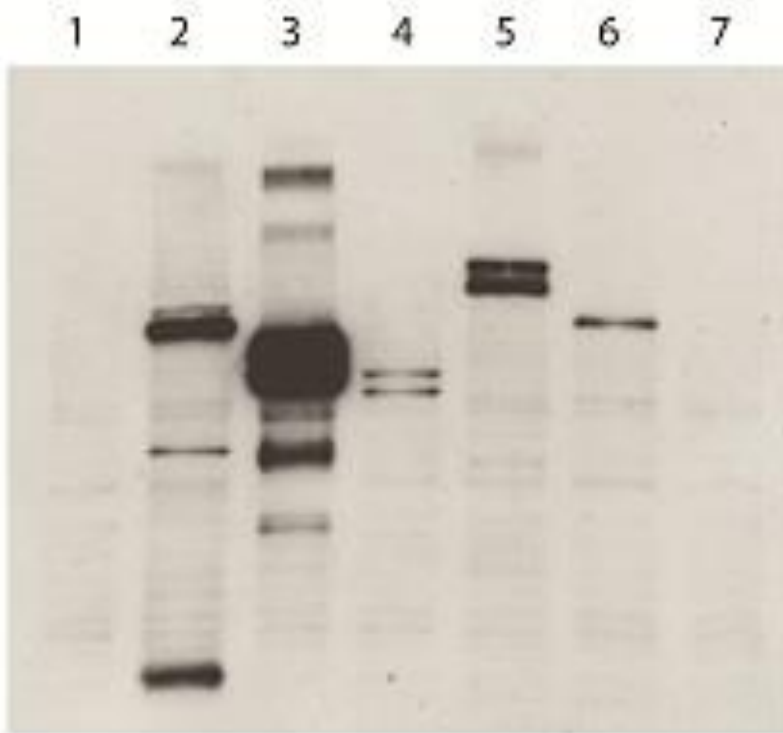
Open access (the file is freely available, effective immediately)

Only in UGent Network

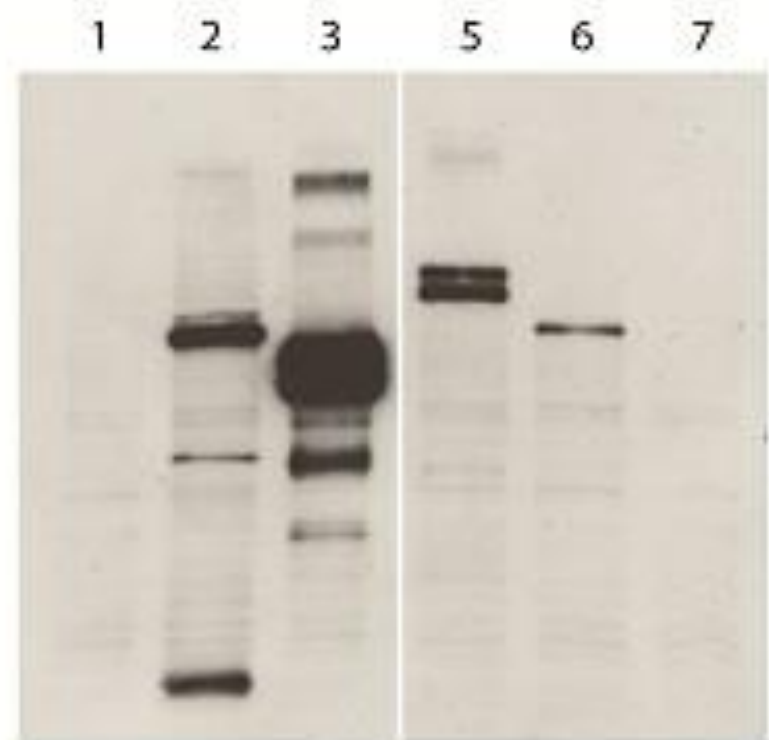
Only Author/Reviewer/Administrator

Switch automatically to  on this day (YYYY-MM-DD):

# DILEMMA

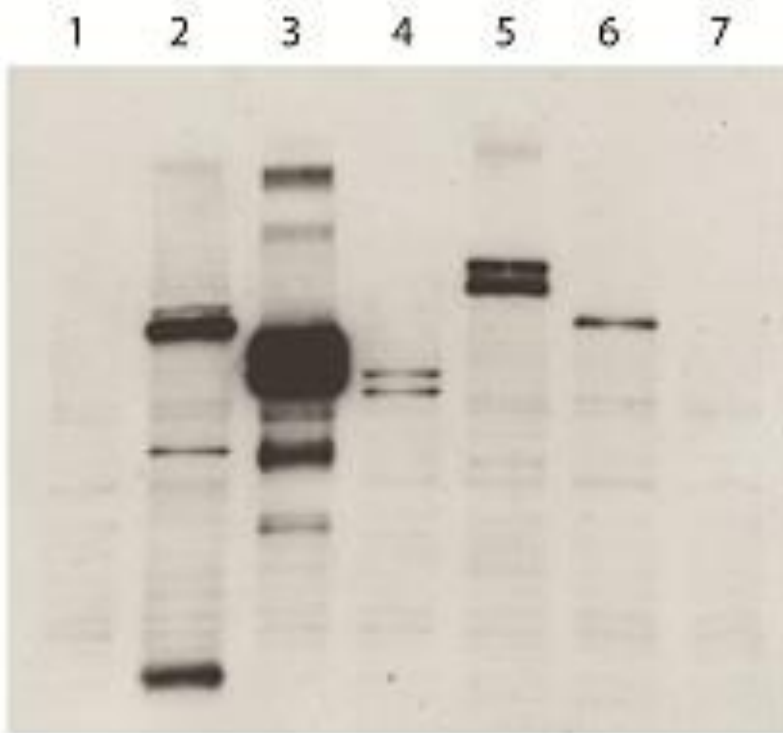


Original image

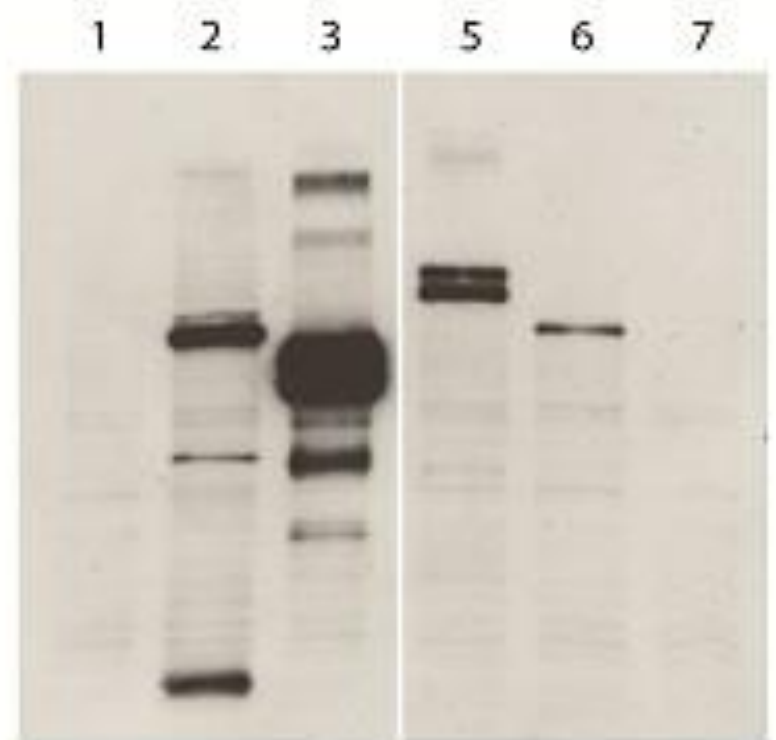


OK – NOT OK?

# DILEMMA



Original image



OK

# manipulations that lead to misrepresentation of the original data are unacceptable

(Rockefeller University Press; The Journal of Cell Biology)

- No specific feature within an image may be enhanced, obscured, moved, removed, or introduced.
- Adjustments of brightness, contrast, or color balance are acceptable if they are applied to the whole image and as long as they do not obscure, eliminate, or misrepresent any information present in the original.
- The grouping of images from different parts of the same gel, or from different gels, fields, or exposures must be made explicit by the arrangement of the figure (e.g., dividing lines) and in the text of the figure legend.
- Nonlinear adjustments must be disclosed in the figure legend.

# DS Course in 2015, again in 2016! See DS Newsletter



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## Effective Image editing



### Cluster Research & Valorization

#### Target Group

Members of the Doctoral School of Life Sciences and Medicine. This course will teach you the essentials of image editing that every PhD student should master.

#### Level

All PhD students

#### Content

"For the print version of our journal, production-quality figures are required. Can you please update your files according to our standards"... Does this sound familiar?

Many researchers get confused and sometimes even frustrated when it comes to image editing, resolution, pixels, colors, etc. This knowledge is essential to prepare high quality research figures. It is essential for effective communication and crucial knowledge for every scientist.

In the course 'essentials of image editing' we will demystify many of the most common pitfalls and problems and give you some good practices that will avoid problems down the road. This course also includes a comprehensive overview of the ethics of image editing to



## DILEMMA

We have agreed on external funding from a company to do research on the physical and psychological effects of certain light and sound effects. These effects are used in the design of some of their consumer products. The company representative makes clear he does not want to influence the results in any way. Before we start the project the only thing he would like to see is that we rephrase our research question. The rephrasing places the focus more on possible positive effects rather than on negative effects.

What do I do?



## OPTIONS

- A. I agree with these changes.
- B. I act as if I had not heard him.
- C. I stop the collaboration with the company.
- D. I let the head of my department decide on the matter.

## CODE OF ETHICS

Commissioned scientific research is carried out **without interventions from the sponsor during the execution** of the scientific work entrusted to the researcher. The sponsor's policy (public or private) is expressed in the choice of research themes. The researcher does not fail his/her independence by accepting contracts or in responding to calls for proposals within this context, insofar as he/she retains his/her **freedom in the execution of the research, as regards the organization of the research, the hypotheses, the methods used and the formulation of conclusions.** A scientific conclusion can only be formulated on the basis of scientific arguments."

Commissioners and external sponsors, as well as their **relations** with the researcher, are **mentioned** in the publications of the results. The possible links between sponsors and researchers, such as their **expert or advisory role**, will also be mentioned. Any **conflicts of interests** must be **mentioned** in scientific communications and publications."

If there is a risk that there could be a **conflict or a confusion of interests**, the researcher can only accept to carry out the research if his/her impartiality will not be jeopardised. His/her solution to this problem will be **explicitly mentioned during the presentation of the research results.**

## MAKE IT CLEAR!

- Disclosure slide in all presentations
- Disclosure paragraph in all publications

=> On the website soon

# <https://www.ugent.be/en/research/research-staff/organisation/research-integrity/overview.htm>

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Ghent Univ

UNIVERSITEIT GENT

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- Education
- Research
- Facilities
- Working at UGent
- Living in Ghent

Ghent Univ in Belgium, both exact

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Research page

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- Studeren
- Onderzoek
- Vacatures
- Over de UGent
- Nieuws
- Agenda

Info voor

- Toekomstige student
- Student
- Alumnus
- Personeel (intranet)

Op het werk

- Aankopen
- Activiteiten organiseren
- Communicatie
- Financiële administratie (SAP)
- Gebouwen en logistiek
- Huisstijl
- Informatica en telefonie
- Mobiliteit en wo...
- Onderzoek en on...
- Permanentiecentr...
- Raden en commiss...
- Reglementen en ...
- Telewerken: piloc...
- Verzekeringen
- Welzijn en milieu

Onderzoek en onderwijs

Onderzoek

- Beleidssteken
- Wetenschappelijke integriteit
- Datamanagement
- ERA en Europese netwerken
- Research directory: UGent onderzoekscentra

You need to log in otherwise you can only see the 'public' (external) page! + go via staff pages

Right bottom of the page

## Electronic newsletter on research and internationalisation



All current news concerning policy and funding opportunities for research and teaching mobility made available through the electronic newsletter Berichten over Onderzoek en Internationalisering ('Notices about Research and Internationalisation' - in short 'BOZI').

You can register through your Ghent University account to receive daily/weekly/monthly updates by e-mail or browse the online database.

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