



WIR SCHAFFEN WISSEN - HEUTE FÜR MORGEN

Louis Tiefenauer, PhD, MASAE

Workshop Research Integrity 2016

Scientific Reviewing

Tuesday 07 June, 14.00 – 17.00 @ PSI OHSA/E13

Workshop program

14.00	Start:	Welcome / Ethics in science	
14.00 – 14.15		Introduction of participants	all
14.15 – 14.50		“Scientific reviewing”	TL
14.50 – 15.00		Experiences of a reviewer	TK
15.00 – 15.20		Coffee break	
15.20 – 16.00		Workshop in 2 groups E13 /B19	TL / TK*
16.00 – 16.30		Reporting group discussions	all
16.30 – 16.45		Plenary discussion	
17.00		Closing the meeting	

* Knud Thomsen PhD, secretary FoKo

Ethics of Peer Review: A Guide for Manuscript Reviewers

Case studies

Sara Rockwell, Ph.D.
Departments of Therapeutic Radiology and Pharmacology,
and Office of Scientific Affairs,

Yale University School of Medicine

A course developed with the support of the HHS Office of Research Integrity

Case # 4 Scientific peer reviewing

- Dr. Hess is reviewing a paper for an American genetics journal.
- As he reads the paper, it begins to seem very familiar.
- He looks in his files and finds a very recent article by the same authors, published in a conference proceedings in a supplement to a European Journal.
- This published article is virtually identical to the article under review.
- The same data are presented in the figures and tables, the same conclusions are drawn, and even the wording of the text is virtually identical in the two papers.
- What should Dr Hess do?

Case # 4, Issues to consider

- Duplicative publication
- Problem of how to handle appropriately a situation which could well develop into an allegation of scientific misconduct
- Responsibilities of reviewer
- Responsibilities of editor

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Duplication: scientific misconduct

Responsibilities

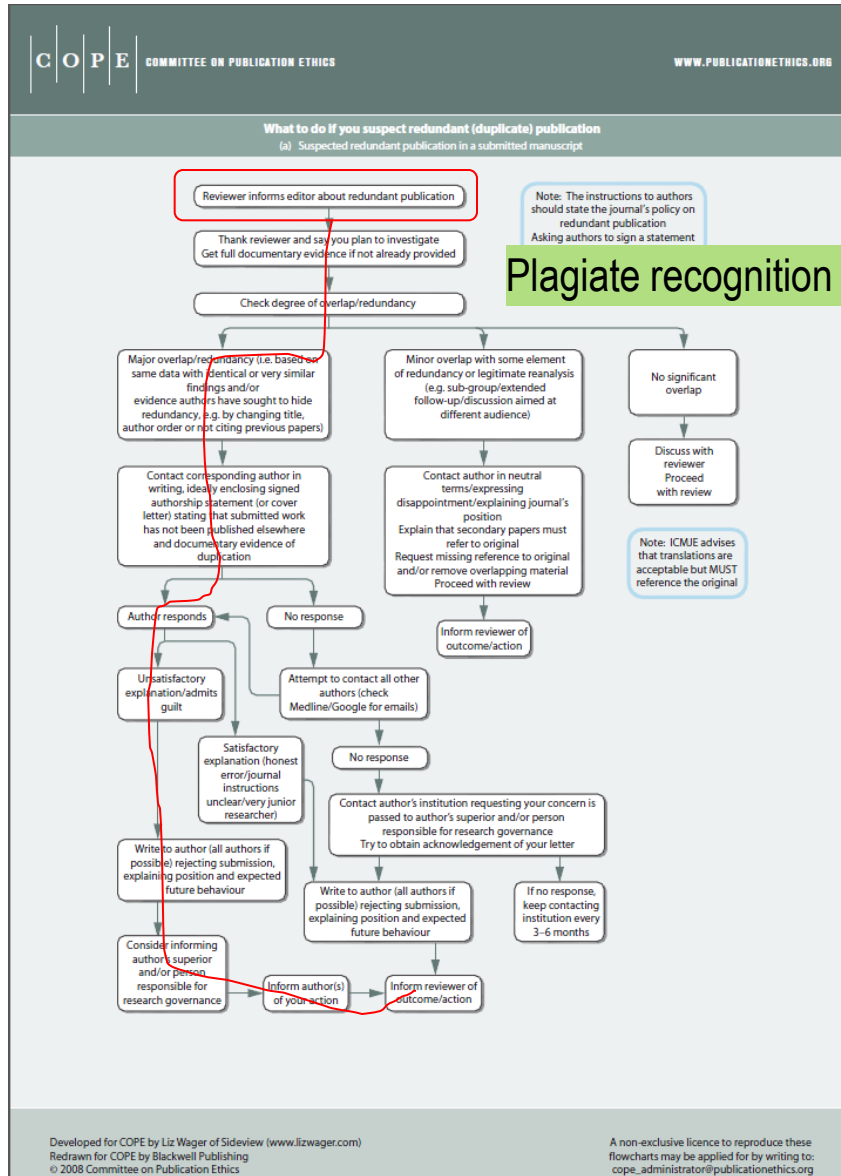
A reviewer *should* detect

List of reported misconducts:

- “**Authorship** complaints (leaving out authors who should be included, or including authors who did not contribute significantly)
- **Duplicate submission** or salami publishing (creating several publications from the same research)
- **No ethics approval** (related to animal experiments or for experimentation with human subjects)
- **Undisclosed conflicts of interest** (see www.elsevier.com/conflictsofinterest)
- **Reviewer bias**
- **Falsification** of results (including image manipulation)
- **Fabrication** of results

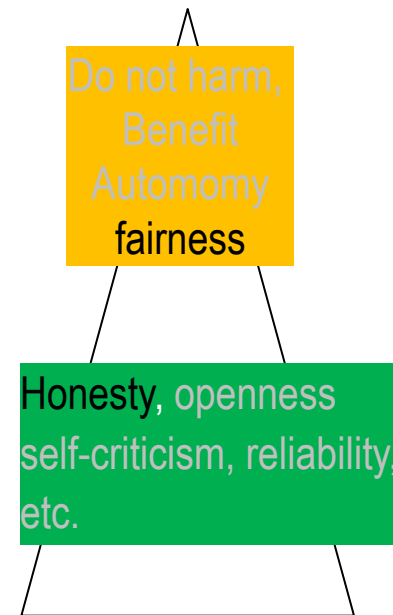
“The *peer review system* is the cornerstone of scientific publishing; it helps to improve articles by feedback from experts in the field, but also helps in validating data.”

Rob van Daalen, Ethic in publishing – new challenges,
W.J. Kolff Institute, Newsletters March 2016



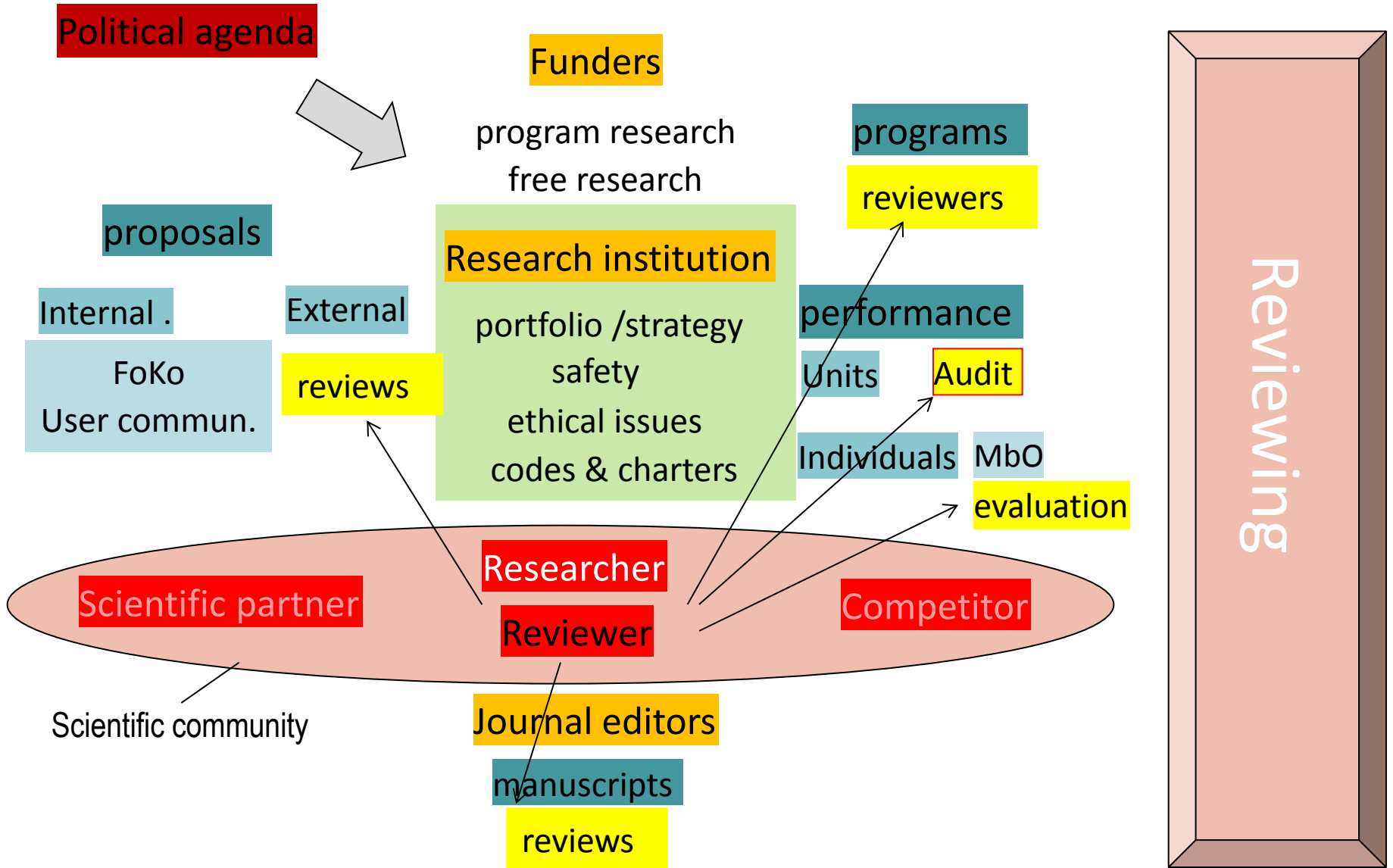
Principle, values & rules

- Fairness: assume first honest error
- Confidentiality
- Clear procedure



Guidelines, rules

Scientific Reviewing



What accountants **should do** where there's a conflict of interest

Source: Eva Tsahuridu ethics and governance specialist at CPA Australia policypositions@cpaaustralia.com.au

“This *overconfidence* in our ability to remain unbiased, upright and ethical poses a big threat to our professional judgements”

“We are also *more likely* to uncritically accept information that supports our view and are more likely to reject information that opposes our views, or at the very least, be a lot more critical towards it.”

“We need to keep in mind that we think [unjustified]:

- we are unbiased
- we can make sound, rational decisions
- we are objective and fair
- we are more ethical than others”

Foster awareness and install *balanced* review committees

Manuscript reviewing

Scientific citizenship:

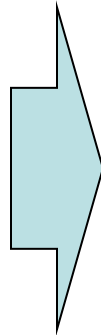
- Has a long traditions since more than 300 years
- A duty for researchers in favor of science
- *Quality of science* depends on good reviewing
- Set standards in the field

Publication list

Research proposal

Audits Expertise

Evaluation of scientists



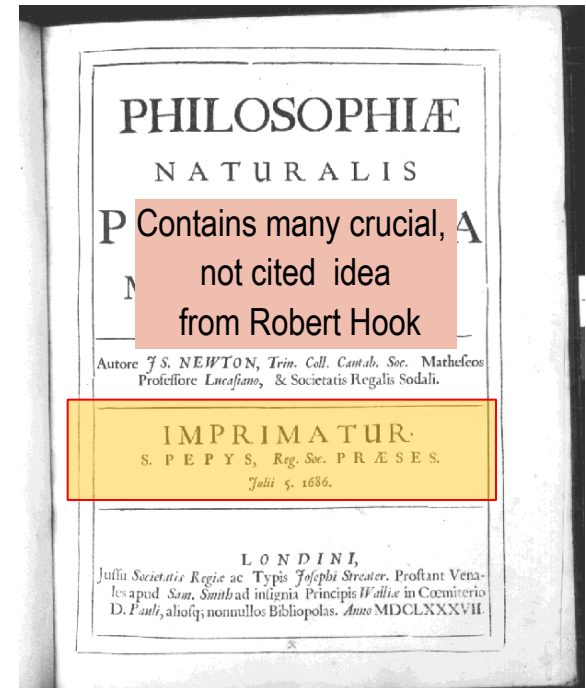
Direct impact on:

- Money & power
- Research opportunities
- Career
- Development of sciences

Quality check by Royal Society president Samuel Pepys (Pieps):
 Imprimatur: **It can (will) be printed**

Pepys was naval administrator

- friendly, generous, educated
- friend of Isaac Newton (biased)
- slightly involved in corrupt practices



manuscript



Manuscript reviewing process

Ethical issues

Manuscript writing

Fair authorship, FFTP (do not harm)

Manuscript submission

Appropriate readership: journal selection

Inquiry by editor to reviewers

Reviewers work

Fairness
Benefit for science & society (quality)
Avoiding misconduct (FFTP)

Revisions Rereviewing

Decision to publish the manuscript

Benefit for science
quality of research work

Preprints

Publish

Bibliometry

Incentives, fairness
Impact factors (rewarding systems)

Start manuscript reviewing process

Self-check

1. Do I have sufficient competence ?
2. Do I have a conflict of interest (COI) ?
3. Do I have time ?

1. Competences ?

- Basics, terminology
- Know the standards of the field
- (Own) experiences
- Own publication in the field

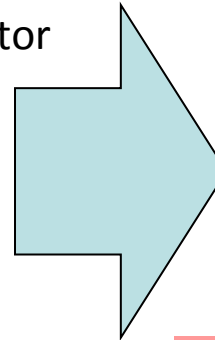
2. COI ?

- Family, close friends (bite inhibition)
- Financial benefits (company participating)
- Immaterial benefits (institutional)
- Others (belief, competitors)

3. Time

- Can I meet the deadline?
- Have I sufficient time span for a good review ?

Reply to
the editor



Accept: you got access to the material

- Keep it confidential (also the results)
- Avoid access by others
- Start careful reading to meet deadline

Deny: give reasons (voluntarily)

- Lack of time
- COI
- Not (yet, anymore) competent

Checklist review

- Short *summary* : show you have understood
- Give a *main impression*: scientifically sound, knowledge gain
- Does it adhere to the journals *scope & standard*
- Give *ethical concerns*: (self-) plagiarism, fabrication, falsification
- Check *ethical issues*: animal exp., human materials, dual use etc.
- *Specific comments*: title, abstract, methods, errors, results, conclusion (justified), references (adequate), highlights

Recommendation

Accept without revision or *refuse*,

minor or major *revision*, recommend another journal

Review style

Accurate, readable, helpful

Not: sarcastic, crude, offending

Scientific reviewer: values & rules

Research proposal

Funders expert

Internal Foko

Audits

Organizational units

Large projects

Evaluation of applicants for

Postdocs

Permanent academic position

Professorship

Competence

Do not accept, if not fully competent

Do go in details and give supporting suggestions

Independency

Do not judge friends or foes

Confidentiality

Do not make use of findings

Destroy copy of manuscript after finishing review

Anonymity

Don't disclose your name

Don't pass to others without permission

Transparency

- Make transparent: process, criteria and goals
- Inform all affected people on the outcome in due time
- Declare scientific relationships and bias

Assessing scientific performance («the system»)

Drawbacks

Paper counting

fosters duplication, fragmentation

First author: Fouls, intransparency

recommendations

5 best papers

specify contribution

Benefit (quality)

Fairness

Ranking

Institutions: foster mainstream prone to manipulation

Journal impact factors: Not related to quality of a work, field dependent, calculation

San Fransico Declaration (DORA) 2013: do not use for assessment of individuals

Scientific indices

h-index: underestimate young scientists, field dependent

con gano salis

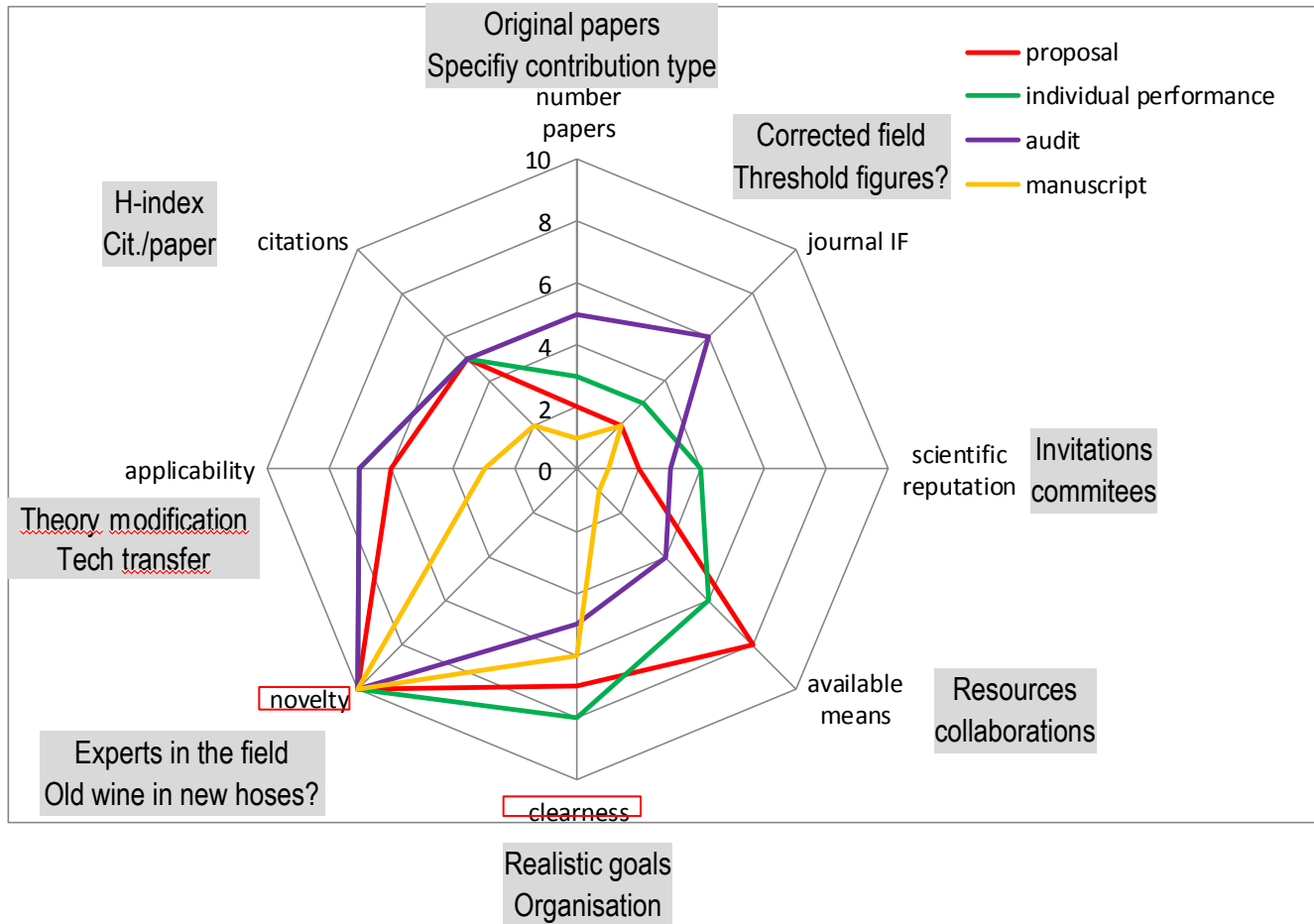
Since 2005 underestimat impact of crucial publications e.g. Einstein 1905, h-index 4

Invited contribution at international conferences

prone to manipulation nepotism look closer

Assessing scientific performance

Using *many* relevant *weighted* factors when reviewing



Discussion

- relevant factors ?
- weighting factors ?
- differentiation ?
- who is competent ?

This are my personal factor wheighting

Integrität in der Forschung am PSI

Richtlinien für gute wissenschaftliche Praxis



Research integrity at PSI

Guidelines for good scientific practice

3. Integrity of peer reviewing

Peer reviewing

Reviews are an essential element of research and we researchers at PSI are therefore committed to act as reviewers, especially for:

- a. The evaluation of research proposals (the PSI Research Commission) and project financing
- b. The assessment of manuscripts for publication
- c. The selection of applicants for employment (e.g. for appointments or promotions)
- d. The assessment of research groups, laboratories or departments (audits)
- e. An expertise requested by courts of law and authorities or requested by all parties involved in the specific issue.

Criteria for the selection of experts include their professional competence, integrity and the avoidance of conflicts of interest.

Reviews are carried out according to transparent and adequate criteria and should at the appropriate level be proofed, if the responsibility to the society such as autonomy and dignity of man, dual use-issue, safety, etc. has been reflected.

An appointed person must provide an opinion which is unbiased, constructive and punctual, and refrain from making emotional, derogatory or offensive remarks.

The reviewer is obliged to retain confidentiality, and therefore:

- a. treat all data and information subjected to the assessment as confidential, as long as this has not been made public by the persons being reviewed,
- b. may not obtain other opinions to use as part of his or her judgement without the consent of the body responsible for requesting the review,
- c. make no personal use confidential information disclosed to him or her in the context of the reviewing process.

Disclosure of interests and conflicts of interest

Researchers at PSI who are asked to provide an expert opinion on a research project that competes directly with their own research interests, must disclose their conflict of interest and/or decline to offer an opinion. It is then left to the body making the request to choose another expert.

PSI Guidelines: Reviewing

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competence and
personal **integrity** and
no **COI**

bias: avoid or name them

constructive: helpful, generous

punctual: not general

Checked: **DUO** external user proposal, **Horizon 2020**

Dual use

Threats damaging society (war, terrorism)

Autonomy

Informed consent, respecting **cultural diversities**, HFG

Dignity of creature

Swiss constitution (Art.120, Abs 2) **biodiversity**

Animal welfare

Respecting **national acts** and ordonances

Safety

Occupational safety & health, environment

Fairness

Other researchers, society, **discrimination**, **equal rights**, employer (loyalty)

Data management

Privacy, ownership, access, duty to publish

PSI Intranet: «Research Integrity» Information sheet

Reviewer traps

Quality by self-control of scientific community

Reviewing threaten by: bad review quality, not sufficient time, *pseudo reviews*, fake reviewers (e-mail addresses to the own submitter address)

Predatory publishing: fake ISI citation index, paper mills, etc.

Lacking of rewards for reviewers: reviewer quality ?

Avoid this publisher also as a reviewer



“So, it appears SCIENCE DOMAIN international casts a wide net for peer review but then cancels outstanding requests when it gets enough positive reviews.”

<http://scholarlyoa.com/about/>

Workshop Research Integrity (course 930E) «Scientific reviewing», PSI 2016

International Journal of Science and Advanced Technology (IJSAT)

eISSN: 2221-8386
Print ISSN: 2304-652X

CALL FOR PAPERS

AUGUST ISSUE

Submissions due August 27, 2012
Notification of Acceptance August 29, 2012
Publishing Date August 31, 2012

Why IJSAT?

IJSAT maintains blind peer review for all submitted manuscripts.

IJSAT indexed in DOAJ, Index Copernicus, New Jour, Cite Ser, Get Cited, Google Scholar etc.

OTHER NEWS

Volume 2 Issue 6, June 2012 is in Progress, check Archive section

Dr. Mounita Mukherjee, University of Calcutta, India joins in IJSAT's Reviewer Panel

Dr. Tatas Harjo Panintangih, Brotonudarmo, University of Ma Chung, Indonesia joins in IJSAT's Reviewer Panel

IJSAT will provide Hard copy of Journal and Certificate of Appreciation from June 2012 and onwards

The 'International Journal of Science and Advanced Technology (IJSAT)' is an open access peer-reviewed international online journal. We publish high quality and refereed papers monthly. Papers reporting original research or extended

Goals

Transparency: no hidden agenda

Change management: give up old activities, start new

Periodical group evaluation: bench marking, performance

Panel

Selection of *panelists* (COI), structure (head, professional competence)

Give adequate pre-information, communication of goals, clear tasks

Procedure

Fairness: evaluation criteria, goals

Preparation of the event: define clear tasks

Format: presentations, discussion

Outcome

- Report, give recommendations
- Inform the audited community
- Control after a predefined period

*Benefits: strengthen research fields
Generate synergies*

Check Motivation

- Scientific citizenship
- Foster own reputation
- Curiosity



Checkpoint

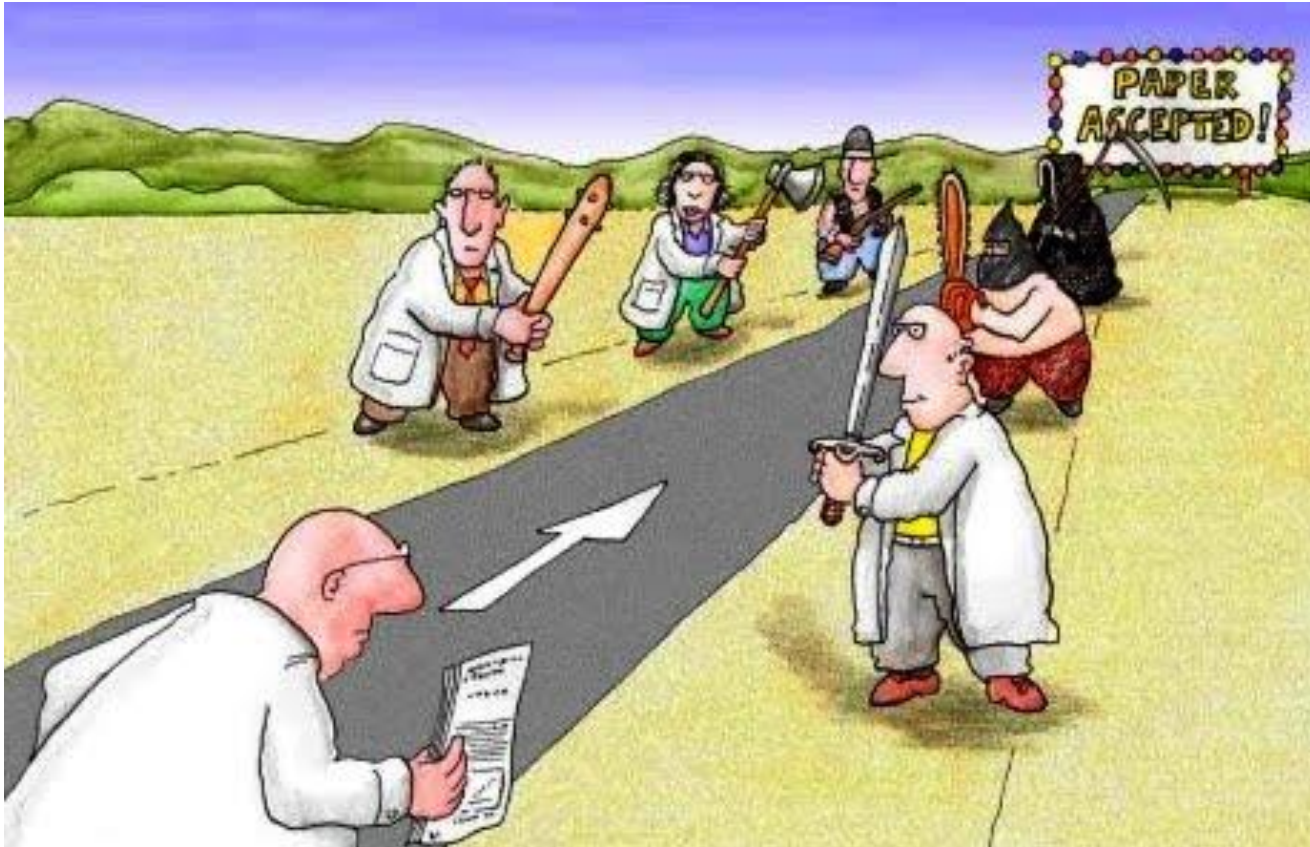
Are I biased ?

- family and friends
- financial (in)directly
- institutional (same departement)
- professional (another school)
- personal (preferences, belief, etc.)

If COI exist:

- Respect institutional guidelines & rules
- Disclose COI
- Develop anti-escalation strategy
- Decline, if you are not sufficiently independent

Scientific reviewing recommendations



- Know the rules
- Know the processes
- Don't give up!

- Dr. Jones agrees to review a paper which sounds from its abstract as though it contains very exciting and novel gene array studies that showing unexpected changes in gene expression during fetal development.
- Upon receiving the paper, Dr Jones is very disappointed.
- The paper is not from a major western research university, but rather from an unfamiliar group of authors at a small college in South America.
- The experiments are appropriately designed, the data appear solid, and the findings are quite interesting.
- However, the paper, although understandable, is not written in good idiomatic English.
- In addition, the graphs are not well prepared.
- Dr Jones writes a very short review, pointing out the limitations of the paper, and recommends rejection.

Is this an appropriate action?

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Case #12, Issues to consider

- Was this review objective?
- Did the reviewer adequately consider the quality and importance of the research?
- Was the focus of the review appropriate?
- Does this review meet the needs and objectives of a peer reviewed journal?