University of Debrecen

Science Ethics

Codes of Cunduct for Research Integrity

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SCIENCE ETHICS RESPONSIBILITY TRUST CREDIBILITY

„External", science ethics in a broad sense

Issues in science and society context, general ethical aspects and consequences of scientific research, freedom of research and limits of this freedom

„Internal" science ethics

Integrity of the researcher, ethical rules and self regulation of research activity, behavior norms of proper research activity, recognition and handling of research misconduct.

There is no a sharp borderline between the two

SCIENCE ETHICS RESPONSIBILITY TRUST CREDIBILITY

„External”

Scientific research and technical developments continuously lead to results which raise new ethical challenges and considerations., Nowadays this especially frequent in biomedical research and biotechnology (cloning organisms, stem cell therapy, editing human genomes, GMO, synthetic biology, bioterrorism, etc).

Unfortunately, open and unbiased discussion or interpretation of ethical and beneficial aspects of new opportunities provided by science is often unsuccessful in society and with political decision makers.
Different regulations and practice varying by countries.

Responsibility of scientists is critical, though many of them are not active in discussions with society or not trained in or familiar with science ethics.

SCIENCE ETHICS RESPONSIBILITY TRUST CREDIBILITY

INTERNATIONAL ORGANIZATIONS IN SCIENCE ETHICS

UNESCO
Commission on the Ethics of Scientific Knowledge and Technology (COMEST – 1998) Human rights, environment, climate, nanotechnology,

World Medical Association (WMA) Helsinki Declaration 1964
Basic document of ethics related biomedcial research in humans

International Council of Science (ICSU – 1931)
Committee: „Freedom and Responsibility in the Conduct of Science"

InterAcademy Council (IAC - 2000)
Report: „Responsible Conduct in the Global Research Enterprise (IAC-IAP 2012)

INTERNATIONAL ORGANIZATIONS IN SCIENCE ETHICS

Council of Europe „Steering Committee on Bioethics" (CDBI – 1992)

It has a determining role in regulation of medical research in Europe.
In 1997: „Oviedo Convention on Human Rights and Biomedical Research"
signed so far by 27 European country – including Hungary

Compulsory documents::

- **Prohibition of human cloning**
- **Prohibition of trading human organs**
- **Regulation of biomedical research**
- **Regulation o genetic studies for health**

Recommendations: **Xenotransplantation, Protection of the rights of mentally ill**

SCIENCE ETHICS RESPONSIBILITY TRUST CREDIBILITY

INTERNATIONAL ORGANIZATIONS IN SCIENCE ETHICS

EUROPEAN UNION

European Group on Ethics in Science and New Technologies (EGE)

European Academies Science Advisory Council for EU (EASAC)
Statememts and reports on various issues like synthetic biology, „Guidelines for scientific policy advice”,

There are EU directives for human biomedical studies, testing of pharmaceuticasl drugs, animal experiments,

SCIENCE ETHICS RESPONSIBILITY TRUST CREDIBILITY

„Internal" science ethics

Integrity of the researcher, ethical rules and self regulation of research activity, behavior norms of proper research activity, recognition and handling of research misconduct.

Research misbehavior and miscunduct in science are more and more frequent

As a result codes of conduct for research integrity have been formulated and published.

Increased attention and activity at national and international levels.

Varies by countries

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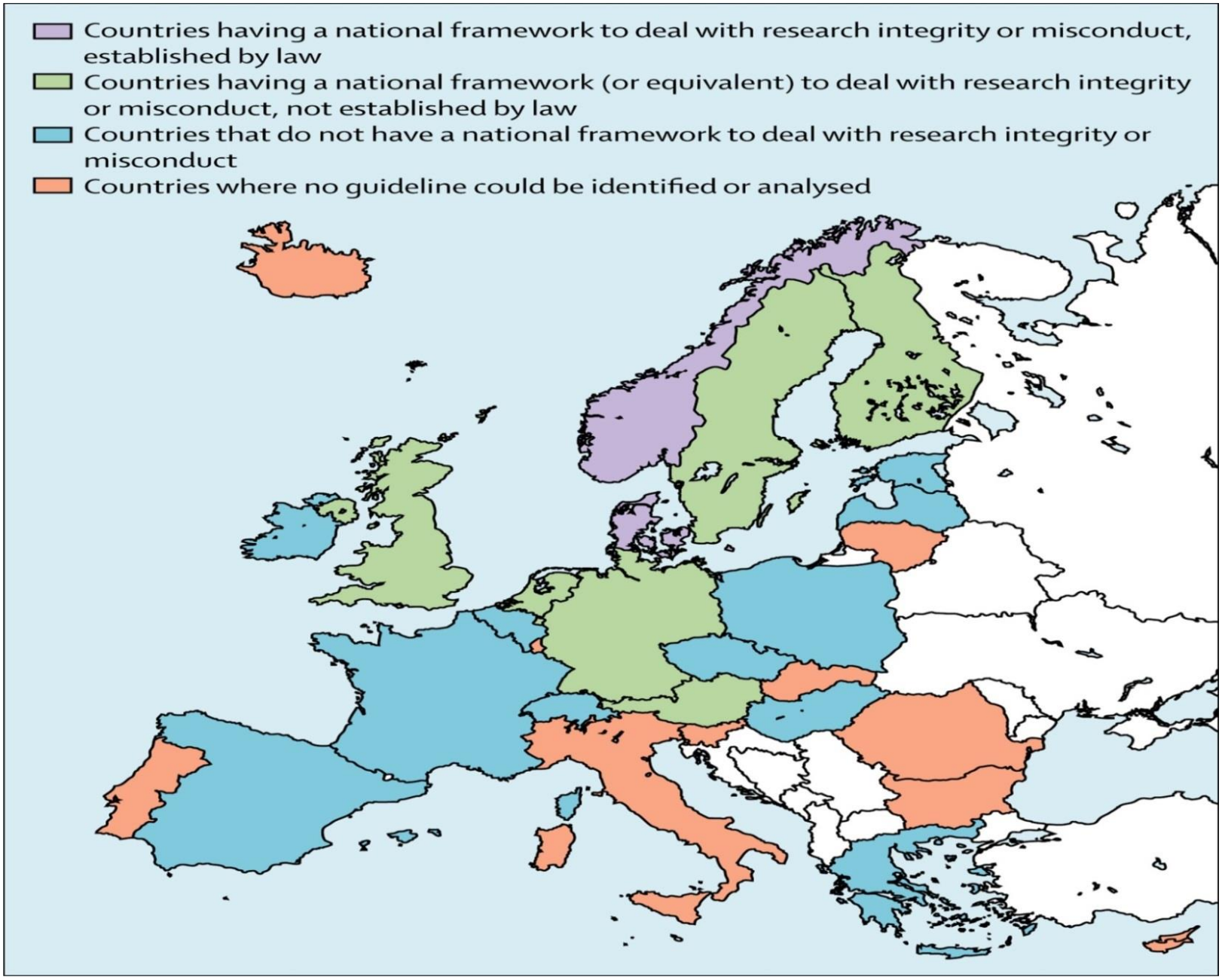
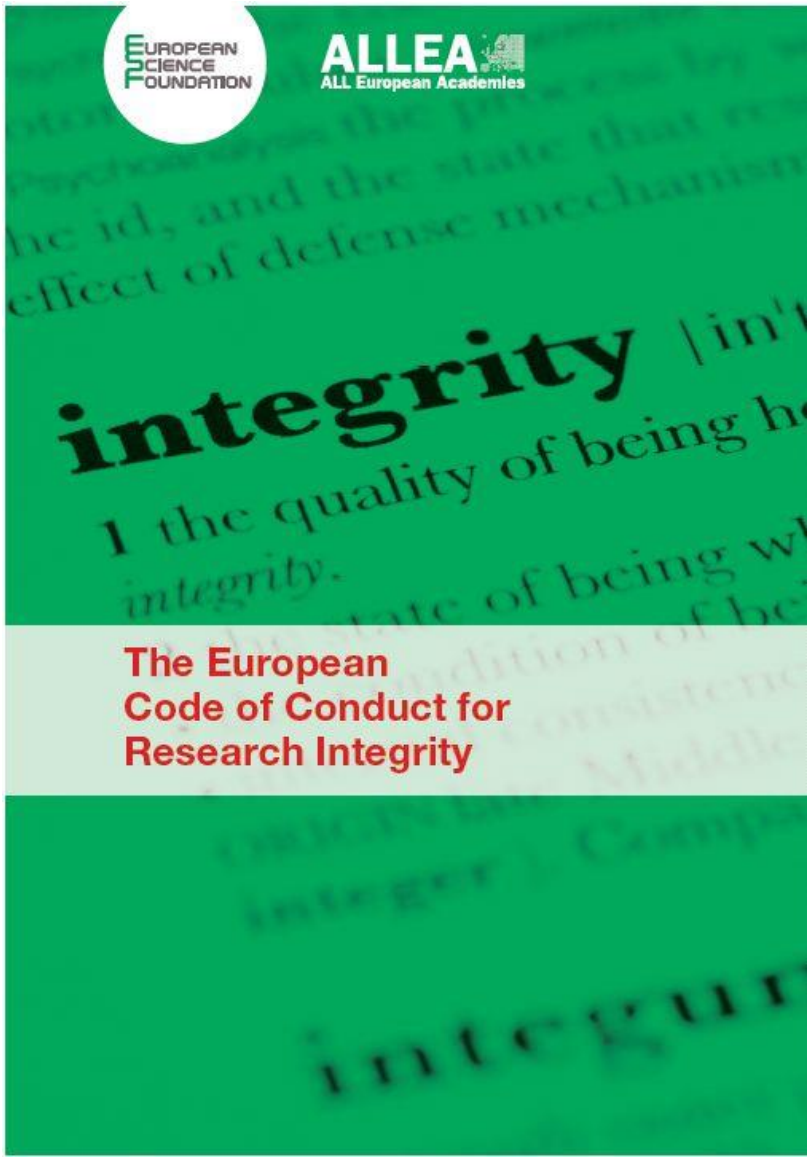


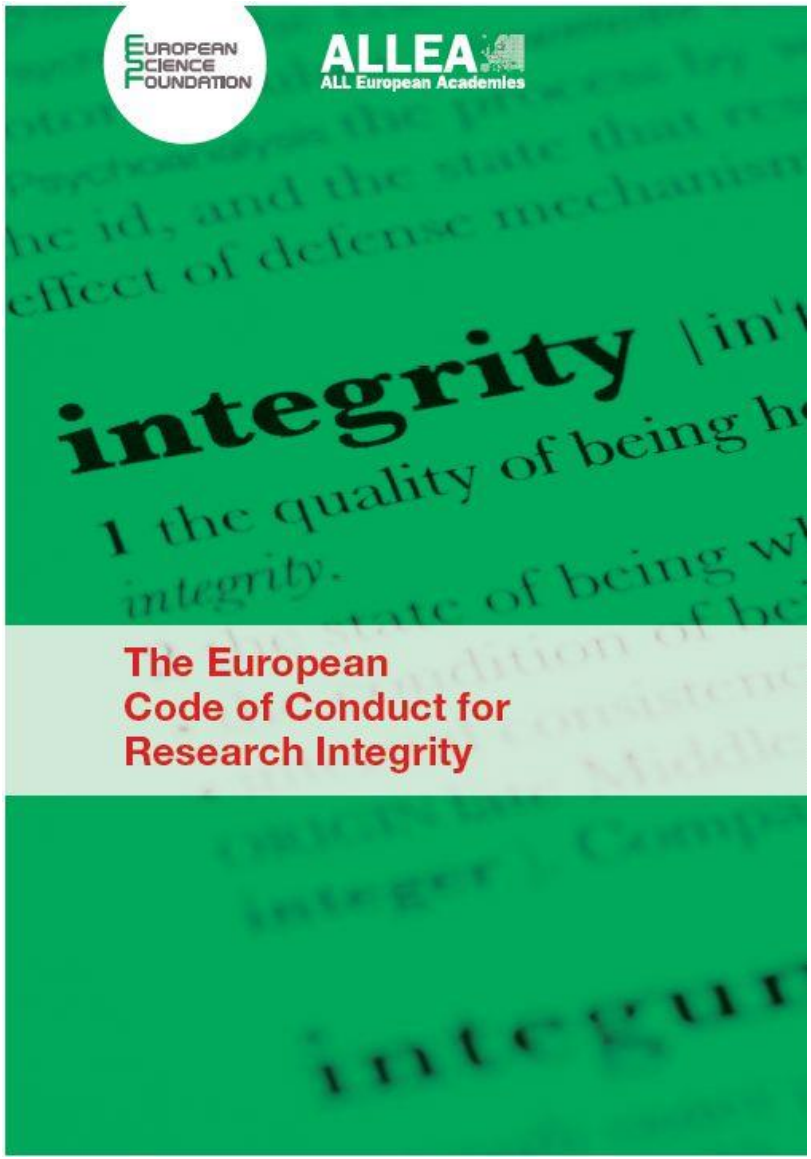
„Guidance on research integrity: no union in Europe."
Goecharle, Nemery and Dierickx (2013) Lancet 381: 1097-1098



„Science as the process of knowledge augmentation is embedded in a wider socio-ethical context, and scientists must be aware of their specific responsibility towards society and the welfare of mankind.

In this Code, however, we confine ourselves to standards of integrity while conducting research, and do not consider this wider socio-ethical responsibility."

„The standards and principles discussed refer to fundamental and universal norms for responsible conduct in research. There is no need for cultural or regional adaptations or compromises in a Code of Conduct."



„This Code of Conduct is not a body of law, but rather a canon for self regulation. It is a basic responsibility of the scientific community to formulate the principles and virtues of scientific and scholarly research, to define its criteria for proper research behaviour, and to set its own house in order in case scientific integrity is threatened."

Science Ethics Code of the Hungarian Academy of Sciences

Standing Committee on Science and Ethics
Hungarian Academy of Sciences

The Standing Committee on Science and Ethics was established at the initiative of the leadership of the HASC in 1985 for giving advise on issues related to science ethics and to deal with cases of misconduct .

Each of the eleven sections of the HASC nominates 2 members (one of the two can be a member of HASC) to serve in the Committee; they are elected by the Assembly of HASC for a three years period.

One of the 22 members is elected by the Committee members to serve as chairperson.

The Committee is autonomous, responds only to the Assembly of HASC, works on the basis of „The Science Ethics Code of The Hungarian Academy of Sciences".

The Science Ethics Code of the Hungarian Academy of Sciences

Proposed and formulated by the Standing Committee on Science and Ethics.

The document „Code of Conduct for Scientific Integrity” of ALLEA and ESF was used as a reference and for steering.

It serves as the general guide for the Hungarian research institutions and universities and has become the basic reference document in Hungary.

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The Science Ethics Code of the Hungarian Academy of Sciences

Introduced by a

MEMORANDUM ON MORAL AND ETHICAL QUESTIONS

OF SCIENTIFIC RESEARCH

- **The autonomy of scientific research and the obligations of researcher**
- **Moral self-control of scientific research**
- **Dangers of infringing upon science ethic norms**
- **The role of the Hungarian Academy of Sciences in maintaining the integrity of science and ethics**

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The autonomy of scientific research and the obligations of researchers

Scientific research shall be independent, unbiased, and autonomous.

The realization of this is often hampered or even prevented by strong personalities or institutions, political pressure, economic or financial interest.

However, it must be seen clearly that the researcher shall fulfill his/her task in order to produce value: his/her presumptions, starting points of research, the selection of the research object, the method of collecting data, and the effect of its results and discoveries on society are connected to the moral, ethical and social relations in the midst of which science is proceeding.

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Moral self-control of scientific research

Extended administrative duties, a lack of time, financial austerity, tensions generated by competition, ever harder competition for resources, the possibilities provided by the internet , human frailty and social changes are all factors raising the temptation for the researcher to achieve fast scientific success by questionable and unacceptable means, or to try to gain more attention to him/herself than deserved.

Therefore it is necessary that rules laid down in a code of conduct delimit such attempts so that scientific research remains moral and authentic.

Dangers of infringing upon science ethic norms

The researcher's behavior going against science ethics is harmful to science itself as it can give false guidelines to other researchers and so it can result in a continuous misrepresentation.

Behavior infringing upon science ethic can be harmful to society as well: false research may result in e.g. the commercial marketing of hazardous medicines or other industrial products. Further, if science policy or legislation is based on false research results, the harmful consequences are unforeseeable.

It can also have a harmful effect on the trust of the public in science.

Finally, behaviour infringing upon science ethic can also be harmful to the researcher him/herself since sooner or later he/she will be rejected by the researcher community.

„Considerable hard data have emerged on the scale of misconduct. A metastudy (D. Fanelli PLoS ONE 4, e5738; 2009) and a detailed screening of all images in papers accepted by The Journal of Cell Biology (M. Rossner The Scientist 20 (3), 24; 2006) each suggest that roughly 1% of published papers are fraudulent. That would be about 20,000 papers worldwide each year."

„Current scientific leaders have the opportunity to take the initiative and stamp down hard on fraud."

INTER ACADEMY COUNCIL UK: University Concordat Canada: Tri-agency Framework

The Science Ethics Code of the Hungarian Academy of Sciences

CODE OF CONDUCT

Preamble

1. Scope of the Science Code of Conduct
2. Fundamental moral and ethical principles of scientific research
3. Performing scientific research
4. Communication of scientific results
5. Infringement of scientific ethics
6. Procedure in the case of suspected infringements of ethical rules

Preamble

Based on point g) of paragraph (1) of article 3 of the Act XL of 1994 on the Hungarian Academy of Sciences (HASL)

“guards over the clarity of public life, the freedom of scientific research and articulation of scientific opinions”,

„the present Code of Conduct determines the moral and fundamental ethical principles that those carrying out scientific research shall adhere to, describes the recommended procedures and rules relating to the carrying-out of scientific research and presents the cases and modi operandi in case of which research ethic is infringed.”

The Code of Conduct is not a law, nor it is a legal norm, but is the means of the moral self-regulation of the scientific community.

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Fundamental moral and ethical principles of scientific research

Honesty **in presenting scientific goals and research intentions, a precise presentation of scientific methods, procedures and interpretations, and honesty also in explaining possibilities, dangers and justifiable claims inherent in the possible application of results**

Reliability **in performing research, recording, storing and presenting data. Eliminating negligence and inattention. Full reporting on the accomplishments and results of previous research.**

Objectivity: **interpretations and conclusions must be exclusively founded on facts or impartial and logical proof and on data the correctness of which can be verified at least on a theoretical level.**

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Fundamental moral and ethical principles of scientific research

Impartiality and independence **from any interested party or group interest, from ideological or political pressure groups, and from economic or financial influence.**

Openness **in discussing the results with other researchers and contributing to the augmenting of public knowledge through the publication of results.**

Duty of care **for participants in and the subjects of research, be they human beings, experimental animals, the environment, or cultural objects.**

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Performing scientific research

Planning the research program

Defining the goals of research

The validity of the principle of freedom of scientific research shall not mean that the planning of the particular research program is unlimited. Such restrictions may arise especially in the case of questionable research goals and methods, or indeed if the research planned may endanger or injure the individual, society, or the environment.

Morality and quality of research

The morality and quality of research presupposes self-critical and ethical judgment on the part of both the researcher and the scientific public.
It is especially important that unrealistic goals should not be conceived of as research topics, and the researcher should not arouse unfounded expectations.
It is necessary to consider the originality of the problem arising, the preliminary data, the necessary financial and other circumstances.
The research should not be determined by an effort to produce fast results or the largest possible number of publications.

Documentation of the research plan

The research plan shall be recorded in a form stipulated by the financer of the research. Generally, the research plan includes who is responsible for the research program, what is the role of the participants, what is the form and resource of the financing of the research, and how data and experimental observations shall be processed.

Clarification and recording of influence and incompatility

Supporters of the research and external financers shall accept that the researcher performs his or her work without being influenced. However, if by any special reason the research is influenced, it must be clearly stated under what circumstances and to which extent this is occurring whether during planning, performing, or in the course of the reviewing and publishing of data. Such agreements shall be preliminarily concluded in writing and made available for the management or ethics committee of the respective institute or organisation. The persons participating in the research programtheir financial or other commitments, in case this may in any form constitute incompatibility during the research.

Considering patents

In case the possibility or consideration of patent application arises, necessary rights and obligations shall be clarified in time, in an agreement concluded between participating persons and institutes and the supporters of the research, preferably in a written form.

Fulfilment of the research program

Documentation of data and other research materials

In the case of sciences performing experiments and observations, - data shall be accurately documented so that the research can be controlled and varified. Data and other documentation materials produced during the research, both those contained in electronic data storage devices and hard copies shall be stored in a way that the damage, loss or manipulation thereof cannot occur. In case loss of data occurs, it must be documented separately.

Following the closure of the research program the program leader must see that after the completion of the program the data and documentation materials are stored for a time accepted and common in the respective researcharea.

Handover of the information relating to the research program

Within the research working group the free circulation of information relating to the research shall be ensured. During the execution of the research program all participants shall be aware of what can be revealed on the research to persons outside the research.

Following the accomplishment of the research program, data and other documentation materials necessary for the data to be controllable or reproducable or for the program to be continued must be made available for such purposes.

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Communication of scientific results

The primary forum the researcher reports on his or her results and publishes them shall be a scientific communication (publication) with the form accepted in the respective area of science and produced on the basis of independent professional review procedure.

The scientific communication

A scientific communication must be published in a recognised periodical or book published in printing or electronically and having an independent editorial committee. Prior to the publication, the scientific results may be placed in an internationally known archive, but this cannot be deemed a scientific communication. Indicating a non-scientific work (informative article, communication not published in a professional issue, educational excerpt etc.) as scientific communication constitutes an ethical misconduct.

Entirety and impartiality

Results shall be published impartially and in their entirety. In the communication the description of methods applied in experiments and examinations, and their proper literature references shall be given,
In the communication attention shall be called to the dangers occurring during the experiments. Arbitrary selection of data cannot be tolerated and results not in accordance with the conclusions cannot be withheld.

Proper quotation

The quotation of the widest possible range of substantial precedents of the research and the possible all-inclusive quotation of scientific publications containing disputed questions must be attempted. If one expropriates others' ideas, methods or data to him- or herself through incomplete quotation, he or she commits an ethical misconduct.

Author of the communication

The person who, due to his or her scientific work, has given an important contribution to the planning or accomplishment of experiments, the evaluation and control of results shall be indicated as author. A position held in the institution or institute, or a role played in the financing of the research shall in itself not entitle anyone to pose as the author of the publication. Honorary authorship can not be be allowed.

In the case of several authors and the presentation of the results of substantially differing experimental processes it must be aspired after that the particular contributions of the individual authors should be made obvious - many journals already require this.

Author of the communication continued

The indication corresponding author may only be used by the consent of the other authors. Only those who have played a decisive or co-ordinating role in the communication may be indicated as such.

It is not proper practice to communicate a particular experimental result in several separate publications for the purpose of augmenting the number of articles published by the researcher. Cases where the original article was written in a foreign language shall be excepted. In such cases, while in full deference to copyrights, publication of the Hungarian/other language version is desirable for the purpose of the availability of the research results to wider Hungarian or other professional circles and for the care of an Hungarian scientific-professional terminology. The practice of after-publication accepted in certain professional areas may also be an exception.

Correction

In case during the research work it emerges that someone's own data or conclusion published previously are faulty or wrong, the authors shall publish this fact without delay, preferably in the periodical that had carried the original article in the first instance. In the case of a publication of several authors the initi ation of the correction is the obligation of the first author.

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Grievous forms of infringement of research ethical norms

Fabrication **is the publication of "results" without any base.**

Falsification **is the manipulation, alteration, or deliberate neglect of data or results. Publication of falsified data also qualifies as an ethical misconduct.**

Plagiarism **is the takeover of ideas, scientific results, words, texts of others and indicating them as one's own. It is an aggravated case of plagiarism when the editor or reviewer of the publication expropriates new thoughts or experimental results of an article submitted for publication**

Bringing personal influence to bear **usually offends the dignity of persons, an offence that can easily turn into injury.**

- **It can aim at the acquisition of a position favourable to the person bringing his/her influence to bear, but also at the making of a decision unfavourable to a third party.**
- **Threat of reprisal against the whistleblower shall also be qualified as personal influence.**
- **Involves the attempt of raising the number of references through personal pressure.**

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The Stapel case

Diederik Stapel, the Dutch social psychologist who has made news on a rather regular basis over the last several years, and who had even become popular on some television chat shows, has been found to be a complete fraud, making up data, rather than conducting field trials as he claimed. In his so-called studies of social phenomena, he's made claims suggesting for example that eating meat makes people more aggressive, or that scientists working in messy labs tend to discriminate more.

INTERIM-RAPPORTAGE INZAKE DOOR PROF. DR. D.A. STAPEL GEMAAKTE INBREUK OP WETENSCHAPPELIJKE INTEGRITEIT

Tilburg, 31 oktober 2011

„…three young researchers under Stapel's supervision had found irregularities in published data and notified the head of the social-psychology department…"

"We have some 30 papers in peer-reviewed journals where we are actually sure that they are fake, and there are more to come," says Pim Levelt, chair of the committee that investigated Stapel's work at the university."

Other unacceptable forms of behaviour and practice

Infringement of social consensus or the compulsory regulations
Human and animal studies

Infringement of personality rights

Inappropriate management of data:
… improper storage of original data, alteration of data, neglecting data disturbing the outcome desired, distortion of data, and ignoring unexpected results…

Misconducts regarding publication
…It is an ethical misconduct to deny deserved authorship, insist on or grant undeserved authorships, and in general to indicate merits relating to authorship in a false way….

Misconducts regarding proofreading, publishing, and procedures

Publication of false or deceptive data related to scientific accomplisments, publications, or awards
… It shall qualify as an ethical misconduct if someone publishes false or deceptive data regarding his or her scientific work, or in relation to the science metric data relating to his or her publications, research, scientific awards….

Science 31 August 2012:
Vol. 337 no. 6098 p. 1019

EDITORIAL:

Ending Honorary Authorship

Philip Greenland1, Phil B. Fontanarosa

„According to a recent report, honorary authors were attached to 25% of research reports, 15% of review articles, and 11% of editorials published in six major medical journals in 2008. It is time to end this practice."

„Concerted efforts by institutions, authors, and journals are needed to put an end to this fraudulent and unethical practice"

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Fundamental principles of an ethical investigation in science miscunduct

Ascertaining the seriousness of the misconduct

In case of an ethical misconduct the proper steps shall depend on the seriousness of the act.

In this respect the level of demonstrable deliberateness and the weight of consequences shall be considered. Any person subject to the investigation can only be reprimanded in case it can be demonstrated that he or she committed the ethical misconduct deliberately and knowingly. As a standard of considering evidence the principle of „strong body of evidences" shall be applied.

Ensuring the internal integrity and legal regularity of the procedure

Balance

Persons accused of ethical misconduct shall be given full details of the ethical misconduct attributed to them and given the possibility for responding to allegations in writing, asking questions, presenting evidence, calling witnesses, and providing responses to the information presented.

Presumption of innocence

Publicity of the resolution of the Science Ethics Committee

University of Debrecen