

Annex to Resolution No. 10/2012  
of the General Assembly of the Polish Academy of Sciences  
of 13 December 2012

# **The Code of Ethics in Science**

**The Commission on Ethics in Science**

**2012**

This Code is based on the document entitled '*The European Code of Conduct for Research Integrity*', which, after a long period of preparation, was announced by the European Science Foundation (ESF) and All European Academies (ALLEA) as the model for national codes in European Union countries.

Other documents used for the preparation of this Code were: '*The Good Practice in Research. Recommendations*' by the Ethics Team at the State Committee for Scientific Research (2000); as well as '*Good Practice in Science. Guidelines and Principles*' by the Committee on Ethics at the Polish Academy of Sciences (2001).

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## **1. PREAMBLE**

1. This Code is founded upon the general principles of ethics which are deemed natural and generally applicable in our culture. These principles have been accepted as a foundation, without the need of analyzing their sources. It is believed that the fundamental principles of ethics are: respect for human dignity and for life in all its manifestations; truthfulness, honesty, fulfillment of accepted obligations; as well as respecting the right for the freedom of belief and ownership rights. It must be assumed that both the individual and the collective conscience is both the guard and the judge in ethical issues.
2. Ethical values, standards of scientific integrity, as well as good practice in science emphasize the ethical and social responsibility of scientists. In relation to the social-ethical context of research and the issue of reliability in science, it is justified to differentiate between two categories of these values: one of them referring to science itself and its reliability, and the other to the relationship between science and society. However, it has to be made clear that there is no distinct division between these two categories. Ethical questions arise when science is perceived in the broader, social context. Therefore, researchers must be aware of their special responsibility towards society and the well-being of human kind.
3. The Code of Ethics of a Scientist presents the principles of self-regulations based on the awareness that the primary duty of the scientific environment is to comply with the self-imposed rules and virtues of scientific work. The code defines the criteria of the proper practice in research and it also establishes procedures of conduct in situations when a threat to the scientific integrity is revealed. This Code encompasses all kinds of scientific work, regardless of its location.
4. The high standards of reliability and scrupulous upholding of the system of values characteristic of science are indispensable elements of scientific work, with the primary purpose of not only developing knowledge and broadening its horizons, but also sharing it with others. Meeting these standards is paramount for maintaining the internal cohesion of science and also its social authority and credibility. The system of science is particularly vulnerable to even the slightest sign of dishonesty. Moreover, while conducting research or making use of its findings, we constantly rely on other researchers' testimony, therefore we should be able to rely on this testimony as trustworthy.
5. Science, in its exact, natural, social and humanistic disciplines, is a system of knowledge obtained through: observation, experiments, research and contemplation. The willingness to understand both the world which surrounds us

and the human mind and its creations is deeply rooted in human nature. Therefore, in spite of the differences between particular disciplines as to the methods of research, or accepted practice, all the fields of science have one characteristic in common: they are based on rational argumentation and the presentation of verifiable material and cognitive evidence, i.e. all of them consist in the observation of nature and people, as well as examining their activities and creations.

6. Science is not an activity which can be undertaken in isolation, as scientific research cannot be detached from predecessors' achievements. What is more, it requires discussion and cooperation with other researchers. This cooperation must be open to the world, because science is a global resource, without any nationality. Moreover, it is a broad scientific environment that decides about the adequacy of the applied research methods and at the same time verifies the credibility of findings and discoveries. Scientific research contributes to expanding knowledge only on condition that its findings are presented in a way which allows for their repetition and for the hypotheses to be evaluated by others. Therefore, progress in science is determined by efficient and fast information flow between fellow scientists, as well as by an effective peer-review system. For all these reasons, the basic standards used for conducting research and publishing its results must be universal for the whole international scientific community.
7. Science is strongly correlated with the external world. On the one hand, social and political forces affect the directions of research, on the other science has a huge influence on civilizational and social development, even though research findings can be, and often have been, used in a wrong way. The moral obligation of scientists is to do everything they can to ensure that the research they conduct will be used for the well-being of human kind.
8. Political or ideological pressure and economic or financial interests may lead to corruption in science or to its entanglement in non-scientific correlations. This is why, in order to retain the trustworthiness of science, scientists must protect their disinterestedness and aim at always remaining autonomous and unbiased, as well as retaining their freedom to use the commonly accepted rules and criteria. At the same time, we must be aware that scientists operate in a context restricted by values, which means that the choice of the research subject, the formulation of hypotheses, the method of collecting data, and the presentation of the research findings, are strongly set in the ethical and social context in which science functions.
9. The Code of Ethics in Science does not deal with the broader, socio-ethical context of science, but focuses exclusively on conducting research in a responsible and

reliable way. Its objective is to ensure the integrity of science through compliance with the principles of good practice in science.

## 2. UNIVERSAL ETHICAL PRINCIPLES AND VALUES IN SCIENTIFIC WORK

The basic universal ethical values, which are the foundation of the integrity and credibility of science, refer to the representatives of all disciplines of science, without any exceptions. Compliance with these principles and values is required of: scientists, institutions where research is conducted, but also entities which finance research and organize the scientific life, both in the internal and external dimensions.

These universal principles are, among others:

1. **Diligence** in presenting the objectives of both the intended and the conducted research, in presenting research methods and procedures, the interpretation of findings, as well as revealing the information about potential threats and possible advantages and applications, predicted in a deliberate and well thought-out way;
2. **Trustworthiness** in conducting research, a critical approach to one's own results, conscientiousness, concern with details and diligence in collecting, recording and storing data, as well as in presenting research findings; avoiding the use of one's scientific authority to express opinions about issues from outside the area of one's competence;
3. **Objectivity**: interpretations and conclusions are solely based on facts, valid reasoning and data which are subject to verification;
4. **Impartiality** in approaching the researched or presented problem or phenomenon and in sharing knowledge with others;
5. **Resistance** to any attempts of exerting external influence on the conducted research, on the part of those who commission the research or the expert opinion, but also political, ideological, or business pressure groups;
6. **Openness** with regard to the researchers' own scientific work in discussions with other scientists, which is one of the key conditions of progress in science; also contributing to the development of knowledge by publishing research findings and sharing this knowledge with society as a whole;
7. **Transparency** in the collection, the analysis and the interpretation of data, which is determined by the proper storage of empirical data and making them available through publications;
8. **Responsibility** towards research participants and objects, including the environment and the cultural property. Research on living creatures can be

conducted only with due respect to human dignity and animals' rights, with the permission of the appropriate bioethical commissions;

9. **Reliability** in acknowledging the scientific achievements of other researchers by proper references to sources and truthful recognition of the contribution of other scientists, whether they are co-workers, competitors, or predecessors;
10. **Concern** with the future generations of scientists manifested by teaching the ethical standards and norms to one's students and subordinates;
11. **Courage** in challenging views which contradict scientific knowledge and practices contravening the principles of scientific reliability.

Employers (universities, institutes and other entities involved in research) are obliged to ensure that their employees comply with these basic principles. Entities which offer doctoral studies and are entitled to awarding scientific degrees and titles play a particularly significant role in this area. In order to fulfil their obligation, they are expected to introduce and to apply explicit principles of good practice in science, i.e. the procedures of conducting research in a reliable way, as well as the principles of ethics in science. Moreover, they should promote sensitivity to ethical issues among their employees. Furthermore, it is their duty to efficiently manage the procedures which guarantee complying with standards and exposing their infringement at an early stage. Research units and universities which do not undertake appropriate actions meant to prevent the infringement of the above principles of ethics in science are in fact guilty of neglecting their duties.

### **3. GOOD PRACTICE IN RESEARCH**

The concept of "good practice in research" covers detailed principles of conduct, commonly comprehensible and possible to introduce in research entities, related to carrying out, presenting and assessing research studies, which ensure meeting high ethical standards. Every researcher should be aware of these principles from the beginning of their career and should also know the consequences of their infringement.

Responsibility for the promotion and the application of good practice belongs to the scientific community, which includes the following: participants of the research process (students, doctoral students, employees and supervisors of research teams and institutions), scientific institutions (universities, institutes, scientific associations and organizations), as well as government and non-government agencies operating in the area of science. The principles of conducting research and presenting its results are determined by the following general categories of good practice in science:

- 1) handling research data;

- 2) research procedures;
- 3) authorship and publishing research findings;
- 4) reviewing
- 5) recruitment of young researchers
- 6) international cooperation;
- 7) avoiding a conflict of interest.

These practices may be subject to cultural variations: the definitions, traditions, legal regulations and institutional rules can be substantially different for particular disciplines of science. Therefore, if needed, each research entity should modify or supplement these practices in accordance with their legal requirements or traditions, in this way forming their own code of good practice, to be followed by its employees. It also refers to institutions sponsoring research, as well as scientific publishing houses. Lack of such internal principles of conduct undermines the credibility of an institution.

### **3.1. Practice in handling research data**

All original source data, i.e. primary research findings, which are a basis for a publication, in certain cases also samples or materials related to the research, should be meticulously documented and safely archived in such a way that it would be impossible to manipulate them. They should be available for a period specific to a given discipline, but not shorter than 6 years from the research completion.

### **3.2. Practice in research procedures**

- 1) Research should be conducted diligently and with due caution. It should be preceded by the risk analysis, as well as the forecast of the effects it may have on society and the environment;
- 2) Applications for research funds should be accompanied by realistic promises and the applicants should endeavour to achieve the declared objectives;
- 3) In the case of research conducted on people, it should be ensured that human dignity will be respected, regardless of age, sex, culture, religion, social or ethnic origin;
- 4) Research involving people should be conducted in accordance with the Declaration of Helsinki, Charter of Fundamental Rights of the European Union, the European Convention on Human Rights and Biomedicine, as well as other detailed guidelines, such as pharmaceutical law and the Directive of the European Commission on clinical research;
- 5) Specific research objects, such as living organisms, cultural assets, or the natural environment, should be treated with due respect and care;



- 6) Research must not pose a threat to the health, safety and wellbeing of the co-workers and any persons involved;
- 7) Researchers must be aware of the need for the balanced management of resources allocated for research. This means the effective and economical use of resources (financial and others), as well as minimizing waste and losses;
- 8) Principals and sponsors of research should be aware of the ethical and legal obligations of a researcher, as well as possible resulting limitations; moreover, they should remember about the significance of publishing the research findings;
- 9) In certain cases, justified by specific regulations, a researcher must respect the confidentiality of research data and findings, if it is required by the principal or the employer.

### **3.3. Practice in authorship and publishing**

- 1) Scientists must publish their research findings and their interpretations in a reliable, transparent and detailed way, so that it is possible for other researchers to repeat or to verify the study. They are not allowed to conceal uncomfortable results, which refute the working hypotheses, or to withhold alternative hypotheses or interpretations;
- 2) Delay in publishing research findings may be justified by the intellectual or commercial property protection (e.g. obtaining a patent);
- 3) Related studies should be correctly quoted;
- 4) The authorship of a publication must be based exclusively on the creative and substantial contribution to the research, i.e. taking an active part in initiating a scientific idea, creating the concept and research planning, also the significant contribution to collecting and analyzing data, interpretation of the findings, drafting and writing an article, or its critical proofreading focused on its intellectual content;
- 5) Obtaining financial resources, lending equipment or training in how to use it, collecting data, or the general coordination of the research team – by themselves are not a basis of co-authorship. Attributing authorship to a person who does not meet the above mentioned criteria, or transferring it to another person, are unacceptable. All authors accept a full responsibility for the published content, unless otherwise specified (e.g. they are responsible for a particular part of the research in the area of their specialty). It is required that the authors' affiliation should be accompanied by the character of their contribution;
- 6) The sequence of names of co-authors should result from the practice in the particular discipline of science and should be accepted by all the co-authors at an early stage of the preparation;

- 7) The substantial intellectual contribution of other persons to the published research should be duly noted;
- 8) The financial support, or any other type of support, should be duly noted;
- 9) Each author should reveal potential conflicts of interest at an early stage;
- 10) Publishing the same article (or its significant part) in more than one journal is acceptable on condition that their editors consent to it; the reference to the first publication should always be included. Articles related in this way must be treated as one item in the list of the author's scientific achievements;
- 11) In contacts with the media and society the same standards of honesty and reliability apply as in publishing research findings. Overstating the research results and their practical applications is reprehensible. Another case of bad practice is announcing the findings in the public media before they are accepted for publication in appropriate scientific journals.

### **3.4. Practice in reviewing and evaluating**

- 1) Reviewers and experts must not undertake the task of evaluating other scientists' scientific papers, scientific achievements, or research ideas if they go beyond their expertise;
- 2) Reviewers and experts participating in the evaluation of: research projects, publications, applications for positions for scientific institutions, etc. should decline to take part in the evaluation process if there is a conflict of interest between them and the evaluated person;
- 3) Reviews and opinions should be diligent, precise and objective and the evaluations should be justified. Unjustified reviews are always reprehensible, regardless of whether they are positive or negative;
- 4) Reviewers of research publications should maintain the confidentiality of their opinions until the moment they are published;
- 5) Neither reviewers nor editors of the scientific papers can make use of any data or concepts included in the texts they receive without the author's consent.

## **4. MISCONDUCT IN SCIENTIFIC RESEARCH**

Misconduct in science is understood as an offence against the principles of ethics and good practice accepted in the scientific environment.

#### **4.1. Flagrant misconduct**

The types of misconduct which particularly undermine the ethos of scientific research, are, among others, fabricating or falsifying research findings, which gravely infringe the basic principles of science, as well as plagiarism, which is an unacceptable offence against other researchers.

1. **Fabricating** results consists in inventing them and presenting as genuine ones;
2. **Falsifying** is changing the findings or omitting uncomfortable data, which results in the false presentation of the finding;
3. **Plagiarism** consists in expropriating other persons' ideas, research findings, or texts, without mentioning the source, which is an infringement of intellectual property rights.

These types of misconduct may occur at the stage of the research proposal and applying for grants, in the process of conducting and reviewing research, in references to the work of other researchers, or in the preparation of expert opinions and the popularization of science. In the case of any misconduct of this kind, the perpetrator may be disqualified as a scientist. Therefore, its disclosure must definitely lead to the initiation of disciplinary proceedings.

Particularly flagrant cases of misconduct are: writing false reviews of doctoral and habilitation dissertations, applications for the title of Professor, applications for employment in scientific institutions, as well as research projects. Another example of negligence is refraining from expressing an opinion or a refusal to do so, if the evaluation, in the expert's opinion would be negative.

Any cases of infringing the rules of ethics committed by students or young researchers should be immediately corrected and criticized by their scientific supervisors or coordinators. However, if such situations are repeated, disciplinary measures must be taken.

#### **4.2. Other types of improper behaviour**

Apart from the cases of flagrant misconduct, there are also many other types of improper behaviour related to scientific research. For, instance, these are: not complying with the good practice of scientific work, especially a negligent approach to conducting research and to the analysis of its findings, slovenliness in handling data, negligence in attributing authorship, or malpractice on the part of reviewers and editors.

Equally reprehensible are all forms of discrimination or harassment against students or co-workers, misuse of research funds, or the concealment of conflicts of interest.

#### **4.3. General guidelines for handling revealed cases of misconduct**

The primary responsibility for dealing with revealed cases of negligence rests with employers of researchers, i.e. universities, science institutes, or public and non-public research centres.

All allegations of unreliability in conducting research must be properly clarified, and if proven justified, all facts and circumstances must be thoroughly examined, so that appropriate corrective and disciplinary actions can be undertaken, on the basis of the binding legal regulations. It is essential that persons with substantial experience in the area in question participate in the investigation.

The response to the unethical behaviour in science should depend on the gravity of the misconduct, on whether or not it was deliberate, as well as on other attenuating or aggravating circumstances.

Improper procedures related to revealed misconduct, such as: not reporting the observed negligence, attempts to cover it, retaliation against the whistleblowers, or infringement of the valid procedures, can be also classified as a flagrant violation of the rules of ethics in scientific research.

## **5. APPENDICES**

## **Appendix 1. Guidelines for conduct in cases of violation of the principles of reliability in science.**

### **1. The mode of reporting an allegation**

The person who discovered an unreliability, or has a justified suspicion that a misconduct against the ethics in science has taken place, is obliged to report this issue to the supervisor of the institution where the research is conducted (the rector of a university, the director of an institute, or the supervisor of a unit in the case of other research units), or to the adequate disciplinary ombudsman, or, if there is a conflict of interests at the level of management – to the manager of the superior institution (the supervisory body). The report should include a precise description and a justification of the allegation, the signature and the contact data. The identity of the person reporting a misconduct (the so-called whistleblower or complainant) will not be revealed before the beginning of the disciplinary proceedings.

If the reporting person finds it more appropriate, the claim can be directed to Chairperson of the Commission of Ethics, who may ask this person for further clarifications. If the Chairperson decides that the allegations are justified in the light of the reported circumstances, they will transfer the case to the supervisor of the unit where the alleged culprit is employed, so that the proceedings can be initiated.

In specific instances, the Commission of Ethics in Science can of its own accord direct cases of infringement of the principles of ethics in science by employees of universities, research institutes and research units of the Polish Academy of Sciences to the adequate bodies of these units with the recommendation of conducting clarifying proceedings. The information about the results of these proceedings must be immediately passed on to the Commission of Ethics in Science.

### **2. The clarifying proceedings**

The person responsible for conducting the clarifying proceedings, the purpose of which is to find out whether disciplinary proceedings are justified, is the disciplinary ombudsman. If the ombudsman is in the possession of information about a flagrant misconduct (point 4.1 of this Code), they are obliged to start clarifying proceedings *ex officio*. Otherwise, the proceedings are initiated following the motion of the body which appointed the ombudsman, i.e. the rector of a university, the council of a research institute, or an institute of the Polish Academy of Science, or whenever the disciplinary ombudsman finds it justified.

It is essential that the ombudsman has a sufficient scope for action. The clarifying proceedings should be thorough, detailed, objective, conducted in accordance with the procedures valid in the institution in question and with respect for the defendant's right for defence. Participants of the proceedings should reveal all the circumstances, including those which might give rise to a conflict of interest. All aspects of the clarifying proceedings should be documented in a detailed way. The charged person should be immediately notified of the initiation of the proceedings. They should be given an opportunity to offer explanations and they also have the right for legal counsel.

A prerequisite of maintaining the highest standards in this area is the absolute confidentiality of the clarifying proceedings which require limiting the number of people informed about these proceedings to a minimum, adequate protection of the documentation, in order to safeguard the persons involved in the proceedings, provided that it does not threaten the proceedings, or health and wellbeing of their participants. If it is necessary to reveal some information to a third party, it should take place under the condition of confidentiality, unless these persons have such an obligation due to the function

they perform. The proceedings should end in a confidential report, containing the findings and the guidelines for further action. Both the charged person and the complainant will receive a copy of the report.

If a unit manager establishes on the basis of the report that the allegation of misconduct was unjustified, but raised in good faith, the proceedings are terminated, of which both sides are notified. The charged person has the right to demand a public announcement of the fact that the allegations were rejected. However, if a unit manager finds out that the allegations were not raised in good faith, they will undertake disciplinary proceedings against the claimant.

If the clarifying proceedings were undertaken by the Commission of Ethics in Science on their own initiative, the findings of these proceedings must be submitted to the Commission without undue delay (in accordance with Article 39 (2) of the Act dated 30 April 2010 on the Polish Academy of Sciences).

### **3. Disciplinary proceedings**

The disciplinary proceedings are aimed at establishing whether the alleged misconduct actually took place and issuing a statement the content of which will be depend on this establishment. The proceedings are conducted – adequately to the employee’s workplace – on the basis of the Act of the Polish Academy of Sciences of 30 April 2010, the Law on Higher Education, or the Act of Research Institutes of 30 April 2010. These regulations stipulate the method of conducting the proceedings, the content of the statements issued in the proceedings, the disciplinary penalties, the mode of appeal against the statement of the disciplinary commission of the first instance, a possibility of resuming the proceedings, and means of challenging the disciplinary decisions before the court.

It must be ensured that for the duration of the proceedings the disciplinary commissions do not include persons related in any way to the defendant or to the claimant, or are involved in any other conflict of interest. With utmost confidentiality the manager of the institution instantly notifies the supervisors of the institutions financing the project about initiated proceedings. In the process of allocating funding to scientific research, agencies should take into account the final judgements of disciplinary commissions in cases related to the violation of ethics in science. If the supervisors of such agencies are not informed about the result of disciplinary proceedings, or the proceedings are concealed, or signals about misconduct in a scientific unit are ignored and no clarifying or disciplinary actions are initiated – the unit will be unable to obtain public funding for research until adequate corrective actions are taken.

### **4. Opinions of the Commission of Ethics in Science**

All the regulations quoted above allow for addressing the Commission of Ethics in Science by the disciplinary commissions with a request for giving an opinion in the case of difficulties with the classification of the misconduct. Due to the special legal validity of such an opinion, which is binding for the disciplinary commission in establishing the nature of the misconduct in research, the disciplinary commission is obliged to precisely explain the character of its doubts. The case files should be attached to the motion.

## Appendix 2. Practice in international cooperation

For international projects, before the beginning of the research it should be established which country is in charge of conducting an investigation in the case of an alleged violation of the principles of ethics or scientific reliability, how the proceedings should be organized, and, most importantly, what course of action should be taken in a situation when essential elements of particular countries' policy are incompatible. If this is the case, it is recommended to rely on the guidelines of the Coordinating Commission on the Global Science Forum OECD and on the model International Agreement proposed by this body, which should be incorporated in the documentation of the joint project.

### **The text of a model Agreement on scientific reliability in the case of undertaking an international research project, proposed by the Coordinating Commission on the Global Science Forum OECD:**

We, the parties, agree:

To conduct our research according to the standards of research integrity, as defined in the 'Guidance Notes for Developing Procedures to Investigate Research Misconduct Allegations in International Collaborative Research Projects'<sup>1</sup> and other appropriate documents, including: (specify the national codes of conduct and disciplinary or national ethical guidelines that apply); that any suspected deviation from these standards, in particular alleged research misconduct, will be brought to the immediate attention of (all designated contact point(s)) and investigated according to the policies and procedures of (to be filled with the body with primary responsibility), while respecting the laws and the sovereignty of the States of all participating parties; to cooperate in and support any such investigation and to accept (subject to any appeal process) the conclusion of any such investigation and to take appropriate actions.

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