Ethics of Scientific Research in the European Union

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Abstract: *From the perspective of the European Union, ethics in research activities financed by European funds or the dissemination activity in scientific publications with high international visibility represents an integral, but especially essential, component to guarantee excellence in research in all fields of research (including biomedical research, natural and social sciences). Therefore, in all research projects carried out within the framework of European programs (Horizon 2020 and the Framework Program 2021-2027, respectively) or in the dissemination activity, the fundamental principles of research ethics (including the principle of proportionality, the right to privacy, the protection of personal data, the protection of human health) must be strictly respected, as well as the provisions of national and international legislation regarding research ethics. In this regard, the following should be mentioned: the Charter of Fundamental Rights of the European Union and the Convention on Human Rights, respectively.*

Keywords: *problems; solutions; conventions; fundamental rights; research*

1. Introduction

Scientific research ethics is a set of personal values, principles, moral norms, decision-making methods, rights and virtues that aim to influence the behavior of researchers, to demand responsibility through appropriate rewards and sanctions and, at the same time, to protect research subjects from abuses by the former and to defend citizens from the harmful effects of scientific research. Researchers, as

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individuals, may have different religious and moral affiliations, may belong to different cults and cultures, or may belong to different moral traditions. And nothing can justify establishing a single moral standard that all people must follow in their private lives. The purpose of ethical standards in research is to help researchers make moral decisions in dilemmas within the limits of their profession, avoiding mutual harm and harm to research subjects and directing them to the service of the common good, with due preferential respect for each person, whose value is absolute: it transcends any social objective of general interest and any achievement of scientific research.

2. Ethics and the European Commission

Ethical issues, as they appear in the vision of the European Community, take two forms: the application of ethical principles in scientific research, as well as in scientific research in the field of ethics. In this context, 2005 was a critical year for the European Community. Therefore, on 11 March, the European Commission adopted two landmark works, namely the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. Both papers are seen as key elements of the EU's policy to transform research, both as a profession and beyond, into an attractive career with high promotion opportunities, an essential feature of its strategy to stimulate economic development by implementing research results and thereby increasing the number of jobs. The Charter and the Code of Conduct will give all researchers the same rights and obligations, regardless of where they may work in the European Union. This should help to overcome the fragmentation of European research at local, regional, national or sectoral level, thus creating the potential for Europe to maximise its full scientific potential.

Janez Potocnik has shown in his paper that there would be no science in Europe without research[1] European Commissioner for Science and Research. It follows that it was considered that defining the status of the researcher is therefore crucial. Therefore, by specifying the roles or responsibilities of researchers, it will be possible to some extent to assure researchers that, wherever they work, they will be treated with the respect and dignity they deserve.

The Charter and Code of Conduct address this objective by appealing to the Member States of the European Community, employers, funders, researchers at all stages of their career and in any organisation or profile. They cover all areas of research in the public and private sectors, regardless of the nature of the position they hold or of

[1] https://www.resourcepanel.org/the-panel/janez-potocnik accessed on 17.02.2025, Janez Potocnik, Panel of Members from Slovenia

their employment, the legal status of the employer or the type of organisation or department in which they work.

The European Charter for Researchers sets out the roles, responsibilities and functions of researchers and their employers or funders at EU level. It only seeks to ensure that the relationships between these parties make a valuable contribution to achieving performance in the production, adaptation, transfer and exchange of knowledge and, of course, to the career development of all researchers[1]. The European Charter for Researchers is described by the European Commission as a set of general principles or requirements that establish the roles, position, responsibilities and powers of researchers, as well as of their employers or employers of researchers.

Employers and funders are accountable for providing a suitable environment for researchers as well as for the researchers themselves. Research ethics, professional accountability, rationale, best practices, results distribution, public involvement, and ongoing professional growth in terms of education and creativity are among the broad guidelines and standards that apply to researchers.

For instance, researchers are told not to repeat research that has already been done under different circumstances in order to make their work relevant to society. Researchers must understand the funding procedures and the strategic objectives of their research environment before starting new studies or utilizing resources. Additionally, they must possess the necessary approvals.

It is advised that senior researchers focus especially on their roles as managers, supervisors, mentors, career counselors, leaders, project coordinators, and even knowledge distributors. In accordance with the Charter's stipulations, they are urged to form strong bonds with researchers from primary schools to create the framework for a sufficient exchange of knowledge.

At the same time, employers and funders are obliged to recognise and treat their researchers as brand professionals. The Charter also calls on employers to provide a new research and training environment that stimulates creation, providing the necessary tools, facilities, amenities and opportunities.

Employers and funders must also guarantee employment, stability and continuity, as well as adequate, attractive remuneration, while recognising the value of mobility and the possibility of its existence. Mobility can be geographical, inter-sectoral, interdisciplinary and transdisciplinary, virtual or between the public and private sectors, and is another important way to consolidate and improve scientific

[1]https://www.research.gov.ro/ro/categorie/1310/programe-internationale-programul-cadru-7-oameni-carta-europeana-a-c accessed on 04.03.2025, official government website

knowledge, as well as professional development at any level of the researcher's career, in line with the requirements of the European Commission.

In addition, the Charter requires that the same employers and funders provide researchers with access to research expertise, including career advice and access to a mentor. Employers and funders are also obliged to encourage co-authorship, as a means of ensuring that all researchers who contribute intellectually to an article or patent, including researchers without experience, are recognised by the team.

Standard recruitment procedures are not significantly altered by the Code of Conduct for the Recruitment of Researchers. It emphasizes the value of being receptive to novel and open processes regarding the admissions process and the various screening committees that are put to the test.

Development of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers[1] The European Commission's goal to support the creation and expansion of a competitive, open, and sustainable European labor market for scientists—one that fosters the highest levels of performance and productivity—directly aided in its creation. Both texts are essentially suggestions made by the European Commission to the Member States, who are encouraged to adopt them willingly and in a manner that suits their respective evolving economies.

The goal is for employers, funders, and even researchers themselves to oversee practical implementation. In response to this initiative, they have been actively participating in the development of the Charter and the Code of Conduct alongside the Member States.

There are a number of key organisations at European level that address both ethical and scientific issues, such as the Council of Europe, OECD - Organisation for Economic Co-operation and Development, UNESCO - United Nations Educational, Scientific and Cultural Organisation, WHO - World Health Organisation, FAO - Food and Agriculture Organisation of the United Nations, EGE - European Group on Ethics for Science and New Technologies, FORUM NEC - Forum of National Ethics Councils.

The analysis of ethical issues is reflected in European Commission documents, such as the European Charter for Researchers. The latter is a set of general principles and conditions that set out the roles, responsibilities and rights of researchers and their employers or sponsors.

[1] https://www.research.gov.ro/ro/categorie/1310/programe-internationale-programul-cadru-7-oameni-carta-europeana-a-cercetatorilor-si-codul-de-conduita-pentru-recrutarea-cercetatorilor accessed on 09.03.2025, official government website

The aim of the Charter is to ensure that the relationship between researchers and their employers or sponsors leads to successful activity in the creation, production, transmission or dissemination of knowledge or technological development, as well as the continued development of the researchers' careers. The Charter also recognises the value of all forms of change as tools to support the professional development of researchers.

The Charter therefore provides a broad framework for researchers, employers and sponsors, inviting them to act responsibly, respectfully and professionally in their workplace and to recognise each other as such.

The Charter's foundation is the idea that sponsors, employers, and researchers have a responsibility to make sure they abide by local, state, or federal laws. When researchers enjoy rights and status that are in some ways better than those outlined in this Charter, its provisions cannot be used to take away such rights or status, and what is in the best interests of research is always welcome. The fundamental rights and principles recognized by the European Union's Charter of Fundamental Rights must also be respected by researchers, employers, and sponsors who adhere to the Charter and represent the Member State's stance in this respect.

Regarding the general guidelines and requirements that researchers must follow the ethical requirements found in the many national, sectoral, regional, or institutional codes of ethics, as well as the acknowledged ethical practices and underlying ethical concepts appropriate to their discipline or disciplines, must be followed by researchers. This also applies to employers or sponsors of research, and to research in general. It is essential to respect the principles that have underpinned and are the basis for recognised ethical practices in nations that are successful in research and development.

3. Ways to Address the Ethics of Scientific Research in the EU

From the perspective and vision of the European Union, ethics in research activities funded by European funds or the dissemination of research results in scientific publications of high international prominence, is an integral but particularly essential element for achieving excellence in research in each of its fields, including biomedical research, natural and social sciences. Therefore, in all research projects undertaken and developed within European programs such as Horizon 2020 and, respectively, the Framework Program 2021-2027[1] or in the dissemination of information obtained through research, the basic principles of research ethics must

[1] https://mfe.gov.ro/minister/periode-de-programare/perioada-2021-2027/ accessed on 04.03.2025, official government website

be strictly respected, including the principle of proportionality, the right to privacy, the protection of personal data, the protection of human health, the right to reply, etc., as well as the provisions of national and international legislation on ethics in research and development. In this regard, reference should also be made to the Charter of Fundamental Rights of the European Union and, respectively, to the Convention on Human Rights.

Charter of Fundamental Rights of the European Union (2010 /C/83/02)[1] which has primary legislative status within the European Union. The Charter regulates the rights, freedoms and principles of citizens of the European Union, but also for their professional activity. The fundamental values of the Charter are human dignity, freedom, equality and solidarity. As regards research, the Charter contains several relevant principles, which include the integrity of the person in art. 3, the protection of personal data in art. 7 and 8 as well as the freedom of the arts and sciences in art. 13 etc.

The European Convention on Human Rights and the relevant case law of the European Court of Human Rights and in particular art. 8 - The right to respect for private and family life is another point of reference for ethics in research activities funded in Europe, and not only because, for example, but funding from the state budget must also comply with European rules.

Over time, everything we call progress has led to complicated issues in the relationship between research and research. Scientific research and development, along with technological advancements, help create new perspectives for well-being and development and have significant consequences for individuals and society ethics for sponsors or employers in addition to researchers

Cloning cells or transplanting organs and tissues of different animal species, privacy issues related to research on individual profiles and behavior in the field of management, for example, statistical analysis or financing of studies that underlie the economic choices of all countries are examples of ethics. problems. There are many situations on this topic, as well as literary or specialized works that seek to find solutions to these problems. This highlights the need to reach a common overview of the relationship between science and ethics, which can perform and not restrict researchers to national borders, but at the same time respect the rights and freedoms of all a priority, especially in the current European context, which aims to fully integrate research and development activities, but also with practical problems that remain unresolved. Therefore, the Commission, to develop a coherent and convergent, practical approach to solving these problems, especially those in which

[1] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A accessed on 09.02.2025, official government website

the European Union is actively involved, promotes an orderly link between ethics committees at national and European level, coordinating more coordination. - coordinated research. in Europe on the ethics of science and technology, more standardization in the evaluation criteria of new and ongoing research projects. But an important step in this direction was the adoption of the European Charter for Researchers in 2005[1] as the document that establishes an important set of general principles and requirements regarding the role, responsibilities and rights, freedom of researchers and of research funders and employers. The principles and requirements generally applicable to researchers specifically provide for freedom in research, ethical and professional responsibility and the dissemination and exploitation of results. Researchers are also directly invited to adhere to recognised ethical practices and underlying ethical principles applicable in their discipline, as well as to the ethical standards promoted in the various national, regional, sectoral or institutional codes[2]. Ethics is an integral part of EU research policy, without which research would not be possible. Proof of this is a whole chapter on this important topic in the Commission's Action Plan for Science and Society.

Chapter three of the Action Plan is entitled - Responsible science at the heart of policy-making - and explores the ethical dimension of EU-funded research and beyond, as the purpose of research is also important. It is divided into three parts, the ethical dimension of science and new technologies, risk management and the use of expertise.

The ethical content of this chapter recommends the implementation of 5 actions, namely actions 29-34 in the chapter (Pisoschi, et. al., 2006, pp. 109-125).

These refer to the construction of an information and documentation observatory, which can be objective from this perspective, to establish a dialogue without prejudice between all actors in research to stimulate the exchange of opinions and ideas on a whole range of key ethical issues. often in practice, the preparation of standard courses and training modules to raise researchers' awareness of ethical issues over time, as well as their continuous education through continuous training during activities, the promotion of networks of ethics committees at national and local level. level, with constant observation of changes following EU recommendations, organizing national, regional, European and international dialogue on ethical principles through a series of conferences, webinars, talk shows, at research unit level or following research activities that it has included in its activity, activities that can be carried out online, promoting the establishment of

[1] https://www.uaic.ro/cercetare/carta-europeana-cercetatorului-si-codul-de-conduita-pentru-recrutarea-cercetatorilor/ accessed on 04.03.2025, official European website

[2] http://ec.europa.eu/euraxess/pdf/brochure_rights/RO.pdf accessed on 02.02.2025, official European website

intercommunication networks of animal welfare committees and training young researchers in the field of animal welfare, just to exemplify the model of interaction in a specific non-restrictive field.

All research activities funded by the EU must respect a strict code of ethics. Indeed, Article 3 of the 6th Framework Programme - FP6, 2002-2006[1]notes that all research activities carried out under the 6th Framework Programme will be carried out in accordance with fundamental ethical principles. The European Commission therefore undertakes an ethical review of project proposals that raise sensitive, specific ethical issues or where ethical issues have not been adequately addressed once the evaluation of funding applications has started and is carried out only by external experts. This additional review concerns the guarantee that the European Union does not provide financial and advertising support for research that could breach fundamental ethical principles.

The European Commission considers that research proposals raise sensitive, ethical issues when they involve children or other persons who are unable to give consent, the use of human biological samples such as embryonic or foetal tissues or reservoirs, the use of genetic information or sensitive personal data, the use of non-human primates or transgenic animals.

All funding applications have a mandatory section describing how the ethical issues raised by the research proposal will be addressed. If the research proposal provides inadequate, inaccurate information or addresses specific, sensitive ethical issues, an ethics review committee will be called upon to assess it in accordance with the ethical rules of the European Union Framework Programme.

Commission Staff Working Document, Brussels 26.02.15 SWD (2015) 42 contains special provisions on the labour market, social issues and education[2] This initiative aims to re-evaluate research and development and innovation policy to the unknown challenges facing our society, such as climate change, energy in all its forms and the efficient use of resources, health or demographic change. All links in this research and innovation chain, from basic research to commercialisation, should be strengthened.

In order to complete the European Research Area, the European Commission is working with Member States and regions to develop a strategic research agenda that

[1] Chrome extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=http%3A%2F%2Fier.gov.ro%2Fwp-content%2Fuploads%2Fpublicatii%2FPais1_studiu_14_ro.pdf&clen=285186&chunk=true accessed on 12.02.2025, official government website

[2] http://www.mae.ro/sites/default/files/file/Europa2021/Strategia_Europa_2020.pdf accessed on 18.02.2025, official European website

focuses on issues like energy security, climate change, resource efficiency, health and aging, and green production methods and management. Additionally, the European Commission is working to modernize the framework for copyright and trademark protection, including at the European level, improve access to intellectual property protection for SMEs, speed up the establishment of interoperable standards, improve access to capital, and make full and effective use of demand policies, for example through public procurement or sensitive regulations, but without specific barriers and delays.

The first partnership considered the following elements, such as creating the bioeconomy by 2020, key enabling technologies to help shape Europe's industrial future and technologies to enable older people who are not adapted to new technologies to live independently, and another objective is to create and strengthen, further. development. the role of European Union instruments in supporting innovation in research, such as the Structural Funds, the Rural Development Funds, the Framework Programme for Research and Development, the Competitiveness and Innovation Framework Programme, the SET-scheme, including through much closer collaboration with the EIB and streamlining all administrative procedures to facilitate access to all forms of financing, in particular for SMEs, as well as introducing an innovative incentive in the carbon market, in particular for those that are growing rapidly, as well as promoting knowledge partnerships and strengthening the links between education, business, research and innovation, including through the European Institute of Innovation and Technology (EIT), and promoting entrepreneurship by supporting young innovative units.

4. Ethical Issues in the View of European Organisations

The Council of Europe, the oldest political organisation in continental Europe, was founded in 1949. It is made up of 46 countries, 21 of which are from Central and Eastern Europe. The Council of Europe was created with the aim of:

- protecting human rights and parliamentary democracy and ensuring the rule of law;
- concluding agreements on a continental scale to harmonise the social and legal practices of the member states;
- promoting awareness of the European identity, based on opposing values and overcoming cultural differences and beyond.

One of its main functions, for example, is to provide future opportunities to work in areas such as biological and medical research. Biological and medical research has made a spectacular leap in the field of health, but at the same time it brings fundamental values such as the individual, the family, health, privacy, human rights

and human dignity. The objective of the Council of Europe in this field is to protect the person in his or her dignity and fundamental rights from the risks that may arise from everyday medicine or from new medical techniques such as genetics, reproductive health care, etc. It aims to achieve a balance between freedom of research and the protection of individuals by calling for reflection and debate, ensuring respect for fundamental values and arbitrating their respect between different points of view and interests by developing principles and rules of law[1].

Another group is the Organization for Economic Cooperation and Development (OECD), which unites 30 nations that support democracy and the market economy. It has a global reach thanks to its collaborations with NGOs, civil society, and more than 70 other nations. Its work, which is well-known for both its publications and data, spans the whole economic and social realm, from macroeconomics to field exchanges, education, scientific advancement, and even innovation.

Therefore, biotechnology has now gained an increasingly important role in many sectors and disciplines. The OECD has been working on biotechnology issues for almost 20 years[2]. It also includes applications in science, industry, health and agriculture. This organization has also made an important contribution to the many security issues faced by biotechnology.

UNESCO – United Nations Educational, Scientific and Cultural Organization, established on November 16, 1945. For this specialized agency of the UN, it was not enough to build schools in destructive countries or to spread scientific news. The goal set by the Foundation is broad and ambitious, focusing on building peace in the minds of people through education, science, culture and communication.

The ongoing revolution in science and technology has made man concerned that unbridled scientific progress is not always compatible with ethics. In response to this situation, UNESCO has made scientific and technological ethics one of its ongoing priorities.

WHO – World Health Organization is the United Nations specialized agency for health. It was founded on 7 April 1948. The primary purpose of the World Health Organization in terms of its Constitution is to achieve for all peoples of the world the highest possible level of health. Health is defined in the Constitution of the

[1] https://www.coe.int/ro/web/chisinau/council-of-europe accessed on 06.03.2025, official European website

[2] https://ec.europa.eu/info/food-farming-fisheries/farming/international-cooperation/international-organisations/oecd_ro accessed on 07.03.2025, official European website

World Health Organization as a state of complete physical, mental and social well-being and includes not only the absence of disease or infirmity[1].

The WHO website - Ethics and Health - was created to help all people, inside and outside the World Health Organization, find information on bioethics, including the ethical aspects of the planning and delivery of health care and the ethics of health care, clinical research or biotechnology. It provides a worldwide calendar of all events related to bioethics, resources for ethical research and information gathered on a wide range of ethical topics.

Ethics is a branch of astrology - one of the four main branches of philosophy along with metaphysics, epistemology and logic - that seeks to understand the nature of morality, namely, to distinguish between good and evil. In the Western tradition, ethics was and is sometimes called the philosophy of morality.

Additionally, ethics has been applied to the hard sciences, including ecology as environmental ethics and biology as bioethics. The application of ethics in various disciplines can become very complex as they deal with a lot of instances and have grown more complex.

Bioethics refers to the ethical conflicts that arise in the relationship between the fields of biology, medicine, cybernetics, politics, law, philosophy, and theology[2].

There is a great deal of misunderstanding about the scope of applying ethical evaluation to situations related to biology. While some biologists would limit ethical evaluation only to the moral aspect of medical treatments or technological advances in the field, as well as to the time of human treatment, others would expand the scope of ethical evaluation to include the morality of all actions that can sustain or negatively affect organisms, fear, and pain.

Bioethics is concerned with many public policies or politicized situations, which are, respectively, used to gain groups of followers. This is why some biologists and others involved in the development of new technologies have come to see any mention of bioethics as an attempt to destroy their work and have at least a strange reaction to it, ignoring it, regardless of its true intentions.

Biologists, especially transcendentalists concerned with expanding human possibilities through technology, may tend to align with this way of thinking, as they see their work as ethically perfect and their attacks completely wrong.

[1] https://www.oamr.ro/organizatia-mondiala-a-sanatatii/ accessed on 03.03.2025, official world website

[2] https://asociatiaprovita.ro/resurse/bioetica/bioetica/ accessed on 04.03.2025, Provita Bucharest Association, Bioethics for everyone's understanding

• Topics addressed by bioethics are abortion and reproductive rights, artificial insemination, unauthorized use of biological materials such as animals, organs, plants, microorganisms, and last but not least genes, also known as biopiracy, circumcision, preventive conception, cloning, cryogenics, individual confidentiality of medical records and their biased use in interrogation of prisoners, transplant marketing, intelligence-computer interface, eugenics, proper organ donation from donors, drug pricing, genetic engineering in food, genomics, homosexuality, obligations of the individual, local or sub-national employer or national, state or global community to provide medical care or insurance, etc.

In this way presented, bioethics focuses on using philosophy for analysis, making bioethics interdisciplinary.

In contrast, religious bioethics has developed regulations and related instructions about how these issues should be handled according to those beliefs.

There is a duality in the assessment of bioethics, and this has created confusion because some traditional bioethicists are criticized for being staunch scholars who usually do not have an academic degree or professional qualification in disciplines related to these subjects, such as philosophy, which is widely used in the study of ethics, biology, or medicine. Most biologists, in this view, are Jewish or Christian scholars. However, there are still a small number of scholars of other faiths who have recently become involved in this field. Among the Muslim biologists is Abdulaziz Sachedin of the University of Virginia in Charlottesville[1]. There has been some criticism from liberal Muslims that only conservative religious voices in Islam have heard of this situation. On the other hand, Buddhist bioethicists are involved in organ transplantation, which is their main concern.

Food and Agriculture Organization of the United Nations - FAO[2] coordinates international efforts to combat hunger. In support of developed and developing countries, FAO has established a neutral forum where nations can meet on an equal footing and negotiate agreements and discuss policy development. FAO is, among other things, a rich source of information and knowledge. It helps developing and transition countries to modernize and improve their agriculture, forestry and fisheries and to ensure quality food for all. Since its establishment in 1945, it has paid special attention to all rural areas, covering 70% of the world's poor and hungry people. FAO's activities cover 4 main areas, providing information, exchanging

[1] https://www.linkedin.com/in/abdulaziz-sachedina-5776926/ accessed on 04.03.2025, Abdulaziz Sachedina, Ethics in the University of Virginia, USA

[2]https://ro.wikipedia.org/wiki/Organiza%C8%9Bia_pentru_Alimenta%C8%9Bie_%C8%99i_Agricultur%C4%83 accessed on 08.03.2025, official Google website

expertise in policy development, providing a meeting place for nations, and applying knowledge in the field.

The first major changes in food and agriculture in recent years, in particular accelerated technological development, changes in the resource base and some developments in the economy and markets, have highlighted several ethical issues affecting food security and resilient rural development.

Ethics is essentially multidisciplinary and multidimensional; FAO has made ethics in food and agriculture a priority area of interdisciplinary action and has established an Internal Committee on Food and Agricultural Ethics to guide all actions of the Institute in this area of global interest.

EGE - The European Group on Ethics in Science and New Technologies is a neutral, independent, pluralistic and multidisciplinary body that advises the European Commission on ethical aspects of science and new technologies leading to the preparation and implementation of European legislation or policies.

The National Ethics Council (NEC) Forum brings together the Chairs and Secretaries of the National Ethics Councils. It is an independent, informal platform for the exchange of knowledge, expertise, experience and good practices, addressing major issues of general interest in ethics and science. The NEC Forum uses the open liaison approach in its meetings, which are always organised by one of the National Ethics Councils. The Commission - Directorate-General for Research, reimburses the travel and subsistence expenses of one representative of each participating National Ethics Council. The NEC organises the meeting and the Directorate-General for Research provides the secretariat. The President of the EGE and the President of the COMETH Bureau of the Council of Europe are invited to the various meetings. The Forum network plays an increasingly important role in the exchange of good practices between Member States[1].

EGE - European Ethics Group - an independent, pluralistic and multidisciplinary body acting as an advisor to the European Commission on ethical aspects of science and new technologies in the preparation or implementation of Community legislation or policies and the Forum, has a much greater complementarity than its competitors. The first body is responsible for providing highly specialised ethical advice to the European Commission, in policy-making. The second body is based on

[1] https://www.coursehero.com/file/p62f3m4d/Forumul-Consiliilor-Na%C5%A3ionale-de-etic%C4%83-NEC-reune%C5%9Fte-pre%C5%9Fedin%C5%A3ii-%C5%9Fi-secretarii/ accessed on 05.03.2025, official website, Forum of National Councils

the Framework Programme and acts as a network for the exchange of information as well as for the exchange of good practices on all ethical issues[1].

International advanced research centers have been built in Romania, such as the Nuclear Physics Extreme Light Infrastructure - ELI-NP - the largest laser in the world[2].

Extreme Light Infrastructure - ELI, is a European and international center where the highest level of research is carried out in the field of very high-power lasers, laser-matter interaction and secondary radiation sources. The maximum power of the pulses as well as their extremely short length will exceed current technology several times. Due to its special properties, this multidisciplinary infrastructure offers special opportunities for the study of capital processes that occur in the interaction of light and matter. To this end, ELI will create a platform for the active promotion of Extreme Light applications for the benefit of society. Part of the ELI mission will be to achieve concrete technology transfer to SMEs and large companies. In this context, the priority on the ELI agenda will be the training of scientists who wish to participate in the program, as well as engineers from the many disciplines involved in Extreme Light. The ELI project, which began as a collaboration between 13 European countries, will be carried out on four pillars: High Energy Beam Science, for the development and use of ultrashort pulses of radiation and high-density particles approaching the speed of light. This part of the project will take place in Prague, Czech Republic[3].

Attosecond Laser Science - Laser science at the attosecond level, will conduct timely investigations into the dynamics of electrons in atoms, molecules, plasmas and solids at the attosecond level (10-18 sec.) And Szeged - Hungary will maintain this ELI column.

5 Recommendations

There is a very strong connection between ethics and scientific research which can be seen as conditional in the sense that ethics through social will can establish certain conditions under which scientific research should be conducted, set some limits and in turn can be ethics. subject of research.

[1] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F accessed on 06.03.2025, official European website

[2] https://www.eli-np.ro/ accessed on 04.03.2025, official website, International Centers for Advanced Research

[3] https://ebsciences.com/ accessed on 05.03.2025, Energy Beam Science

The issue of applying ethical constraints in scientific research and in science in general has been a hot topic of debate at all levels and especially among researchers, knowing that researchers are independent people, with special concerns and, in general, dislike restrictions.

From a historical perspective, the scientific world has been deeply involved in the application of ethics in science and the evidence for this position is found in the position papers, but especially in the numerous codes of ethics in this field, underdeveloped branches, at national and international level.

In recent years, the astonishing advances in science and technology and the greed, which increasingly disturbs the world - terrorism, have greatly influenced the scientific and political worlds that have been pushed to work together to become solutions to eliminate the possibility of using scientific progress. against the human's own nature.

Globalization is also an integral part of the relationship between ethics and scientific research and in this way, we are witnessing the trend of internationalization of ethical issues in science, internationalization that is manifested at European level through the emergence of consensual recommendations embodied in the Charter and Code of European Researchers. Researchers, but also through organizational development - National Councils and Ethics Committees as well as debate sessions on ethical issues in scientific research.

The emergence of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers undoubtedly have a positive impact on the development of scientific research and growth due to the development of science.

The allocation of significant financial resources, through the Framework Programmes, to support European research projects that boost scientific development and partnership policy between European countries can only have a beneficial effect and this example must be applied at national level.

Romania, as a NATO member and a member of the European Union, must focus its efforts on understanding and applying European policy in the field of scientific research by linking the new National Programmes for Research, Technological Development and Innovation, and the National Strategy in this field, to the unanimously recognized principles of the European strategy, and its ultimate goal is to build a knowledge-based society.

Particularly important for addressing ethical issues of scientific research in Romania is the emergence of Law no. 206/2004 on good conduct in scientific research, technological development and innovation and, in its spirit, the appointment of the National Ethics Council and the election of its governing bodies. The appointment of Ethics Commissions and in general the application of the provisions of the law,

which even began to bear fruit with the recently launched Program of Excellence in Research for the year 2006, played an important and decisive role.

The State Authority for Research and Development continuously pursues the dissemination and knowledge of the content of Law no. 206/2004 with subsequent revisions and additions, by all research and development units and institutions, units and institutions funded by the state that carry out research and development programs as well as the units that ensure the valorization of the results.

Following Romania's accession to the European Union, the State Authority for Research and Development permanently ensures that all research and development units funded or carrying out state-funded research and development projects are also aware of the application of Commission Recommendation 2005/25/EC of 11 March 2005[1]

The European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers as reference documents for adherence to ethical principles in scientific research.

The State Authority for R&D establishes methods for verifying how these are reflected in the financing contracts for research and development activity, adhering to ethical principles, codes of ethics and other rules of ethical conduct in direct contact with the recommendations of the European Commission.

The National Ethics Council should move forward to accelerate the dissemination and debate of the Code of Ethics and Professional Ethics of Research and Development Personnel, as well as codes of ethics by field.

It should also ensure that ethical principles are respected in tenders for research and development projects, as well as how the units carrying out research and development programs ensure the ethical evaluation of offers.

The National Ethics Council should aim to find the most efficient way to promote good practices in Romanian scientific research and bring them to the attention of all researchers.

The same body should establish the best ways and means of collaboration with the Ethics Committees in the fields of science and technology, where interdisciplinarity is necessary.

The National Ethics Council, through the Ethics Committees by field, should support the Scientific Councils or the Administrative Councils of the units and

[1] chrome-extension://efaidnbmnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fcdn1.euraxess.org%2Fsites%2Fdefault%2Ffiles%2Fbrochures%2Fro.pdf&clen=839349&chunk=true accessed on 03/09/2025, official European website

organizations that carry out research and development projects, regardless of the financing method, in the appointment and organization of the ethics committees under the terms of the Law. No. 206/2004 amended and supplemented[1].

At the same time, the National Ethics Council should ensure the continuous improvement, enrichment and adoption of good practices in the content of the Code of Ethics and Professional Ethics of Research and Development Personnel, which should be on the board of directors of all researchers.

The National Ethics Council should seek to accelerate the development, dissemination and debate of the Code of Ethics and Professional Ethics of Research and Development Personnel, as well as codes of ethics by field.

Regarding academia, there are 3 national councils covering academic ethics:

-The National Council for the Certification of University Degrees, Diplomas and Certificates - CNATDCU, which analyzes deviations from research ethics for doctoral theses[2].

- The National Council for the Ethics of Scientific Research, Technological Development and Innovation - CNECSDTI, which analyses any other deviations from research ethics, in publications, books, articles, research grants, etc., at the proposal of the Internal Ethics Committee at the level of the organization

-The Council for Ethics and University Management - CEMU analyses notifications of deviations from university management ethics such as, for example, promotions, applications, etc.

6. Conclusions

The ethics of scientific research in the European Union is a complex and well-regulated subject, aiming to ensure respect for fundamental principles such as human dignity, integrity, confidentiality and fundamental rights of the people involved. Here are some essential aspects: The European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers: These documents establish ethical and professional standards for researchers, promoting transparency, equal opportunities and respect for human rights; European Framework Programmes: Under programmes such as Horizon 2020 and Horizon Europe, research projects must comply with strict ethical principles, including the protection of personal data, the right to privacy and proportionality in the use of resources; Sensitive research regulations: Research involving human subjects,

[1] https://lege5.ro/App accessed on 07.03.2025, official legislative website
[2] http://www.cnatdcu.ro/ accessed on 05.03.2025, official government website

animals or high-risk materials is subject to strict rules to prevent abuse and protect the integrity of the research.

The European Union continues to develop regulations and guidelines to address emerging ethical challenges in scientific research. Here are some future directions: European Group on Ethics in Science and New Technologies (EGE): This group provides independent advice to the European Commission on ethical issues related to the development of science and new technologies. Topics covered include planetary ethics, digital democracy, genome editing and artificial intelligence; European Code of Conduct for Research Integrity: This code, revised in 2023, promotes good research practices and academic integrity, being a framework for self-regulation in the research community; Horizon Europe Programme, which includes strict ethical assessment procedures, such as ethical review before the start of projects and periodic checks throughout them. Beneficiaries must respect the fundamental values of the EU, such as human dignity and human rights.

These initiatives reflect the European Union's commitment to maintaining high ethical standards in research, adapting to new technological and social challenges

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