



UNIVERSITY OF JAÉN

Vice-Rectorate for Research and Knowledge Transfer

Code of Good Practice in Research at the University of Jaén.

Approved by Governing Council No. 43, February 18, 2019.
Modified by Governing Council No. 35, July 28, 2021. Modified by
Governing Council No. 30, December 18, 2025.

TABLE OF CONTENTS

Preamble

1. Epistemological and Bioethical Principles

1.1. Epistemological Ethical Principles

1.2. Bioethical Principles

2. Conflict of Interest in Research

3. Leadership and Organization of Research Teams

4. Transparency

4.1. Data Collection and Registration

4.2. Dissemination of Results

4.3. Authorship

4.4. Intellectual Property and Exploitation of Results

5. Research Involving Humans

5.1. Consent

5.2. Vulnerable Populations

5.3. Risks and Benefits

5.4. Confidentiality of Information

6. Research with Animals

7. Research with Biological Agents and Genetically Modified Organisms

8. Health, Safety and Environment

9. Deviations in the Conduct of Research

10. Annexes

PREAMBLE

Science, as a product of collective intelligence, is a social activity that requires ethically grounded aims and norms. Scientific research is currently the primary source of social legitimacy of truth and, at the same time, the leading productive force. This double link with truth and utility renders scientific research full of opportunities, but it is also not exempt from risks and conflicts. Therefore, science must provide itself with practices, aims, principles, and ethical norms that regulate the functioning of the research community. This ethical code of good practices in scientific research has two central objectives:

1. To protect the quality, veracity, and honesty of the scientific research conducted at the University of Jaén.

2. To protect the bioethical rights and obligations of people, animals, and the environment during the development of scientific research at the University of Jaén.

The objective and mission are to establish a Code of Good Practices in research for researchers at the University of Jaén.

Its application is directed toward all research and teaching activities carried out by personnel of the University of Jaén.

This Code is inspired by and aligned with the principles contained in international reference documents such as the European Code of Conduct for Research Integrity (ALLEA, 2023), the Declaration of Helsinki (WMA), the Universal Declaration on Bioethics and Human Rights (UNESCO, 2005), and the CSIC Code of Good Scientific Practices (2021). Furthermore, it responds to the need to offer a clear, updated, and operational guide to foster excellence, integrity, and social responsibility in research activities.

Cognizant of the emerging ethical challenges of the 21st century—such as the digitalization of knowledge, artificial intelligence, open access, collaborative science, and sustainability—this document aims to establish not only principles but also practical recommendations that favor a transparent, inclusive scientific culture oriented toward the common good.

1. Epistemological and Bioethical Principles

1.1. Epistemological Ethical Principles

Epistemological ethical principles provide the criteria for veracity and quality that define good research practices. Research conducted at the University of Jaén must adhere to these principles.

The University of Jaén adopts the fundamental values of the European Code of Conduct for Research Integrity (ALLEA), which establishes reliability, honesty, respect, and responsibility as pillars throughout all phases of the research process.

The following will be promoted:

- a) Accountability as a cross-cutting principle. Researchers must be able to justify their decisions, methods, results, and funding sources to the scientific community and society.

- b) Collaborative integrity, especially in interdisciplinary or international research contexts, ensuring fluid, equitable, and transparent communication between teams.

- c) Legality. All research developed at the University of Jaén must not contravene national and international legislation.

- d) Honesty. Scientific research within the scope of the University of Jaén shall comply with accepted deontological criteria and standards in the scientific community and will avoid any type of bias that intentionally distorts results. Any misuse of research, such as the falsification or fabrication of data, abusive interpretation of data, or plagiarism, must be avoided.

- e) Transparency. Scientific activity is cooperative by nature and therefore requires transparency and publicity. Scientific information generated at the University of Jaén must be public and available for consultation by the scientific community and society in general, limited only by legal restrictions. The University of Jaén will promote the use of open-source software and programming languages
- f) Traceability. Publicly available research must be accessible in a way that allows for traceability. The purpose of traceability is for every set of data or information to be verifiable by external observers. Registration of research projects in a public registry from the initial stages (hypothesis formulation) to the final results is highly recommended.
- g) Rigor. Researchers at the University of Jaén must be guided by optimal quality standards within their disciplines. In all cases, these must include methodological criteria such as the precise formulation and control of hypotheses, parsimony, reflective balance, adequate experimental design, and the efficient management of available resources.
- h) Responsibility. Research personnel at the University of Jaén must ensure that their research meets the ethical, legal, programmatic, and contractual requirements established in the research protocol, calls for proposals, or agreements established with external agents.
- i) Respect for rights. Researchers at the University of Jaén must ensure that the course of their research does not contravene the rights and freedoms of individuals, especially the right to personal and family privacy, the right to honor, and the right to data protection.
- j) Gender and age balance. In research studies involving humans, especially clinical trials, a balanced representation of gender and age is recommended whenever the subject of the research allows and requires it.

1.2. Bioethical Principles

The University of Jaén commits to respecting, protecting, and guaranteeing bioethical principles, understood as the ethical prescriptions and norms that guide research to safeguard the rights of individuals participating in research studies.

The Code of Good Practices in Research of the University of Jaén will use international frameworks of reference to guarantee respect for human dignity in all research.

Within the scope of bioethical principles, the use of ethical evaluation tools—such as risk/benefit analysis guides, ethical evaluation matrices, or standardized consent forms—will be promoted. Furthermore, continuous training in bioethics for research personnel will be encouraged as a key element to prevent conflicts and foster a solid, shared ethical culture.

The following will be promoted:

- a) Respect for autonomy. All individuals participating in research conducted at the University of Jaén must explicitly, and without coercion, consent to participate in said research.
- b) Justice. Research conducted at the University of Jaén must not have as its aim, means, or result any unfair or unjustified discrimination based on age, sex, sexual orientation, social class, income, beliefs, or functional or ethnic diversity.
- c) Beneficence. Research developed at the University of Jaén must aim for the acquisition of new knowledge, seeking the autonomy, well-being, and health of individuals and the environment.
- d) Non-maleficence. No research developed at the University of Jaén may be oriented toward harming the well-being or health of individuals or the deterioration of the environment.
- e) Prudence. When the level of uncertainty regarding the risks and potential of a particular technology or research is high, the burden of proof shall rest with the researchers

responsible for the study. In the application of precautionary Principle, the full range of available alternatives, including non-action, must be evaluated.

f) Sustainability. Research conducted at the University of Jaén must be respectful of ecological balances and oriented toward the promotion of efficiency and sustainability.

2. Conflict of Interest in Research

The integrity and credibility of research depend on the integrity of the research personnel. Trust and credibility in a researcher may be questioned when society and the scientific community perceive the existence of interests other than those inherent to the research itself.

A possible conflict of interest is not problematic in and of itself, provided it is not concealed and its existence, along with any measures taken, is reported.

The University of Jaén will manage conflicts of interest by establishing appropriate formal procedures for their declaration and management through the Research Commission, as the competent supervisory body. In case of doubt, researchers must consult with the Research Commission for advice on the declaration of personal, family, financial, or other interests that could influence their research.

Researchers at the University of Jaén facing a potential conflict of interest situation must complete a conflict of interest declaration. This declaration shall be present throughout the entire research process, from the project protocol to the resulting scientific publications (see Annex).

3. Leadership and Organization of Research Teams

Research teams must have a principal investigator / team lead who assumes leadership, provide direction, and represent the group publicly. It is fundamental that those in charge cultivate an environment conducive to the professional growth of their members, fostering both their training and skill development. They must actively encourage the transfer of knowledge and the pursuit of shared research goals.

Team members are expected to participate proactively in all planned activities. It is essential for teams to establish a clear organizational structure, defining authority hierarchies, internal communication channels, and the specific responsibilities of each member in research tasks.

Finally, those in charge have the mission of promoting collaboration with other research teams, with the objective of enriching the exchange of ideas among professionals in the scientific field.

4. Transparency

4.1. Data Collection and Registration

It is recommended that both study protocols and the data and results obtained during the development of research (including preliminary, negative, unexpected, or discordant data) be kept by the research personnel and/or the institution for the period of time necessary to carry out the research, and during the periods provided for in current legislation and, where appropriate, indicated by the Archive and Documentation Service.

Data storage and preservation must be done securely. If stored on electronic media, backup copies must be made. When data contain information about identified or identifiable individuals, the corresponding security measures provided for in the National Security

Scheme must be applied during collection, preservation, storage, and processing. In any case, during the development of the research, the processing of personal data must be carried out in accordance with current data protection regulations.

4.2. Dissemination of Results

Researchers at the University of Jaén must ensure publication of the results and conclusions of any research in a complete, honest, transparent, and accurate manner. This also implies communicating negative results and those discordant with the initial hypotheses.

Research personnel at the University of Jaén must be prudent in the interpretation and dissemination of results, avoiding overstatements that could confuse or create false expectations in society.

Research results must be fully published as soon as possible once the study is concluded, especially when public funding has been involved. Exceptions may be considered when part of the results are subject to some form of intellectual property protection or patent. The use of generative artificial intelligence in data analysis, drafting, or revision must be explicitly declared in publications, specifying the tool used and its specific function in the research process.

The dissemination of results from a study in more than one medium may be considered an appropriate practice or a redundant publication, depending on the fields of knowledge or scientific disciplines.

The publication of results in institutional open-access repositories, such as the Repository of the University of Jaén, will be promoted in accordance with the open science policies established by the European Union and Plan S.

4.3. Authorship

It is recommended that the criteria established by the International Committee of Medical Journal Editors (ICMJE) and the Committee on Publication Ethics (COPE), which are widely recognized by the international scientific community, be followed.

All research personnel who have participated sufficiently in the development of the research project must appear as authors. To be listed as an author in the dissemination of research results, it is necessary to meet the following requirements:

- a) have made a substantial contribution to the conception and design of the research, the data collection, and/or the analysis and interpretation thereof.
- b) have contributed to the drafting and/or revision of the manuscript or research report.
- c) be able to present the personal contribution to the research in detail and discuss the main aspects of the work as a whole.

The unjustified inclusion of authors ("gift authorship") is considered bad scientific practice. Other individuals whose contributions do not meet the authorship criteria must not be listed as authors, although they may be recognized in the Acknowledgments section. Informing and obtaining permission from the individuals who are to be cited in the Acknowledgments section of a publication is recommended.

The order of authors must be agreed upon within the research team, according to the standard guidelines of each field of knowledge or scientific discipline.

Researchers must state their institutional affiliation—in this case, the University of Jaén, and other institutions in the event of multiple affiliations—when disseminating their research results.

The University of Jaén is a member of ORCID (Open Researcher and Contributor ID), a standard for the international identification of researchers; therefore, the inclusion of the personal ORCID code in all scientific contributions generated by the research personnel of

the university is recommended.

4.4. Intellectual Property and Exploitation of Results

Research personnel at the University of Jaén are obliged to adhere to the institution's intellectual and industrial property policies. In principle, it is assumed that any intellectual property generated or developed with public funds or resources must be disclosed for the benefit of society. This general rule may be bypassed if there is an explicit restriction on dissemination, as occurs in projects involving private companies. In the absence of such restrictions, research personnel maintain the freedom to decide on the disclosure of their research.

Researchers must ensure that all contracts or agreements linked to their research contain clear clauses regarding intellectual property and its exploitation, including the ownership of rights, licensing, or the transfer of exploitation rights. Likewise, it is crucial to comply with any additional intellectual property conditions imposed by funding entities. It is important to anticipate potential scenarios related to intellectual property, reach a consensus on how to handle them, and communicate these decisions to the entire research team.

5. Research Involving Humans

5.1. Consent

In any research developed at the University of Jaén involving human beings, the participant must be informed, before the start of the research, of the objectives, the methods to be used, the possible risks or discomforts that could derive from their participation, and any other information that might be relevant when deciding to participate.

The information provided must be understood as part of a communication process with the participant. Therefore, it must be clear and concise. It must also be adjusted according to the complexity of the procedure and adapted to the person's characteristics, such as their educational level. The information provided must make it clear that participation is voluntary, as well as clarify the person's right to refrain from participating in the study and to leave it at any time without any personal consequences.

Obtaining consent is mandatory and requires written documentary evidence. Consent is invalid if the person lacks the capacity to understand and retain the relevant information about the research.

5.2. Vulnerable Populations

In research involving humans conducted at the University of Jaén, the participation of vulnerable individuals must be specially weighed. In the context of research, individuals are considered vulnerable if they may be unable to protect their own interests when deciding whether to participate (for example, if they have difficulty evaluating the risk–benefit ratio associated with their participation); if their voluntariness may be compromised or they lack sufficient volitional autonomy to provide full and conscious consent due to their relationship with the researcher; or if, due to their physical or psychological condition, they are more prone to suffering harm.

When planning research, the necessity of including vulnerable participants must be assessed. If the research could be conducted with non-vulnerable individuals, including vulnerable persons should be avoided.

In the event that the participation of vulnerable persons is necessary, the consent of the participant must be obtained, and the research must cease if the participant expresses rejection, disagreement, or discomfort. In cases where the age or degree of discernment makes this

impossible, consent may be sought from their legal representatives or individuals providing support within their scope of competence, after the affected person has been heard, whenever possible.

5.3. Risks and Benefits

The person conducting the research must protect participants from physical and psychological risks. In the context of research, risk is understood as potential physical or psychological harm, or discomfort, arising from any research circumstance. The researcher must guarantee that the benefits and potential risks and costs to individuals are reasonably balanced and that risks and costs have been minimized. If any physical or psychological harm occurs, action must be taken to alleviate the problems created.

5.4. Confidentiality of Information

Confidentiality implies a commitment on the part of the researcher not to reveal person-related information obtained during the research. Information obtained in a study must be considered confidential unless otherwise previously established.

If there are subsequent reasons to reveal information obtained under conditions of confidentiality, the individual's consent to do so must be obtained. In this situation, the possibility of anonymizing the information also exists, provided that the link between the information and the individual is severed.

The person conducting the research must establish the conditions for the secure maintenance of the information obtained during the research and must provide the necessary means to safeguard its confidentiality.

Those participating in research have the right both to know and to refuse to know the information collected during the study. Researchers must adhere to the individual's wishes. If information is transmitted to them, it must be done in a way that is understandable to the recipient. Research projects involving human beings conducted at the University of Jaén must have the approval of the competent authority whenever required by current regulations.

6. Research with Animals

The instrumental use of non-human animals in experimentation carried out at the University of Jaén must be explicitly justified and limited by three criteria (the Three Rs):

a) Replacement. Replacing animals with other options where they are not necessary, such as audiovisual media or virtual reality techniques, or using animals with a less developed perception of stress and pain.

b) Reduction. Limiting the number of animals to the minimum necessary to obtain a valid sample. Statistical studies must be used to allow the researcher to clearly establish the minimum number of individuals required to obtain satisfactory scientific results, taking into account the importance of choosing the animal species that best fits the study.

c) Refinement. Refining procedures performed on animal models and improving their living conditions. Associated with this idea are concepts such as environmental enrichment, the use of anesthesia and analgesia, the severity classification of procedures, and the establishment of early end-point criteria.

The Ethics Committee of the University of Jaén will guarantee the adequacy of the methodological, ethical, and legal aspects of the research carried out at the institution, ensuring the welfare of the animals used as experimental models in research.

Research projects carried out at the University of Jaén must have the approval of the competent authority. All personnel participating in the procedures must have accredited

training that qualifies them to perform the functions contemplated in national and European legislation.

7. Research with Biological Agents and Genetically Modified Organisms

Researchers who carry out research activities with biological agents and genetically modified organisms (GMOs), as well as with cell cultures and human endoparasites capable of causing any type of infection, allergy, or toxicity, must strictly comply with the relevant regulations and must always have a favorable report from the Ethics Committee for Research with GMOs and Biological Agents of the University of Jaén.

Individuals conducting research activities with biological agents and GMOs must identify, evaluate, and communicate to the Ethics Committee for Research with GMOs and Biological Agents of the University of Jaén any risks associated with exposure to these agents and organisms. Furthermore, they must take all appropriate measures to eliminate or, if necessary, minimize the risks associated with the use of biological agents and GMOs in research activities.

8. Health, Safety, and the Environment

The University of Jaén will ensure the development of research that guarantees the health and safety of individuals and respect for the environment.

Research groups, and especially those in charge thereof, must be familiar with the university's policies on occupational risk prevention and environmental protection. Likewise, they must ensure that their research activities are carried out in accordance with current legislation, as well as making proper use of the resources, means, facilities, and services that the University of Jaén places at their disposal.

Priority will be given to the efficient use of resources, and practices such as reducing the use of polluting materials, reusing equipment, and implementing sustainability criteria in the procurement of scientific services will be promoted.

All research personnel at the University of Jaén shall have the right to access information and effective protection regarding health and safety in their work.

9. Deviations in the Conduct of Research

It is the responsibility of research personnel to report malpractice to the competent Vice-Rectorate for research and/or the Research Commission from the moment they become aware of it.

Malpractice includes, among other things, the falsification and fabrication of data, plagiarism, manipulation of results, unjustified/redundant publication, and the omission of relevant conflicts of interest.

Questionable practices aimed at artificially inflating the acceptance or impact of research results highlight the need to maintain objectivity and avoid data exaggeration or bias.

A clear and safeguarded procedure will be established for the reporting, evaluation, and resolution of scientific malpractice, ensuring confidentiality and the right to a defense for all parties involved.

10. Annexes

Glossary of Key Terms:

- **Open access (Acceso abierto):** A publishing model that allows free and unrestricted access to scientific research results without legal or economic restrictions.
- **Gift authorship (Autoría regalo):** The inclusion as an author of a person who has not made significant contributions to the scientific work—a practice considered inappropriate and contrary to ethics.
- **Conflict of interest (Conflicto de interés):** A situation in which the personal, financial, or professional interests of the researcher may influence, or appear to influence, the objectivity of their scientific activity.
- **Plagiarism (Plagio):** The presentation of ideas, texts, data, or results from others as one's own, without proper attribution of authorship.
- **Redundant publication (Publicación redundante):** The dissemination of the same scientific results in multiple media without valid justification, which may lead to error or augment the impact of a research study through duplication.
- **Traceability (Trazabilidad):** The ability to verify the origin, evolution, and processing of research data and results through proper recording and documentation.
- **Bias (Sesgo):** A systematic tendency to interpret, analyze, or present data in a way that favors certain results, whether voluntarily or involuntarily.

Practical Examples of Application of the Code of Good Practices

Example 1: Undeclared Conflict of Interest A researcher participates in a clinical study on a new drug while receiving funding from a pharmaceutical company interested in the results. Although the conflict of interest did not influence the data, the failure to declare it in the final publication raised doubts about the study's impartiality.

Example 2: Unjustified Authorship A researcher adds a colleague who did not actively participate in the project as a co-author to increase the article's visibility. This action constitutes "gift authorship" and goes against the principles of the Code, as it misrepresents the actual contribution of the authors.

Example 3: Omission of Negative Results A research team discards experimental data that do not confirm to the original hypothesis without justifying their exclusion. This practice biases the results and compromises the traceability and transparency of the study.

Example 4: Use of Personal Data Without Consent During a university survey, sensitive mental health data are collected without adequately informing the participants or obtaining their consent. This practice violates data protection regulations and the bioethical principles of autonomy and confidentiality.

Example 5: Redundant Publication The same article is published with minimal modifications in two different journals without informing the editors. This practice is classified as redundant publication and can artificially inflate the impact of the work.

Example 6: Plagiarism in the Introduction A researcher copies several paragraphs verbatim from another scientific article in the introduction of their manuscript without citing the source. This conduct constitutes a clear case of plagiarism, even if the results presented are original.

Legal and Regulatory Framework

Spanish Law 14/2007 on Biomedical Research and Law 14/2011 on Science, Technology and Innovation, which establish Research Ethics Committees and the Spanish Bioethics Council as the supervisory bodies responsible for oversight. At the international level, Article 15 of UNESCO's Universal Declaration on Bioethics and Human Rights (19 October 2005) is particularly relevant. <http://www.boe.es/boe/dias/2007/07/04/pdfs/A28826-28848.pdf>

Spanish Law 14/2011 of 1 June on Science, Technology and Innovation. <https://www.boe.es/buscar/pdf/2011/BOE-A-2011-9617-consolidado.pdf>

UNESCO (2005). Universal Declaration on Bioethics and Human Rights, Article 15 (19 October 2005). <http://unesdoc.unesco.org/images/0014/001428/142825s.pdf#page=85>

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. https://openaccess.mpg.de/67605/berlin_declaration_engl.pdf

Spanish Royal Decree 178/2004, of 30 January, approving the General Regulations for the implementation of Law 9/2003, of 25 April, on the legal regime for the contained use, deliberate release, and marketing of genetically modified organisms.

Spanish Royal Decree 664/1997, of 12 May, on the protection of workers from risks related to exposure to biological agents at work (National Institute for Safety and Health at Work, within the framework of the Occupational Risk Prevention Act).

Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes.

Spanish Royal Decree 53/2013, of 1 February, establishing the basic rules applicable for the protection of animals used in experimentation and other scientific purposes, including teaching.

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation – GDPR)

Spanish Organic Law 3/2018, of 5 December, on the Protection of Personal Data and Guarantee of Digital Rights (LOPDGDD).

Spanish Royal Decree 311/2022, of 3 May, regulating the National Security Framework (ENS).

Consulted bodies:

ALLEA – The European Code of Conduct for Research Integrity. Revised Edition 2023. WMA – World Medical Association Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects.

UNESCO – Universal Declaration on Bioethics and Human Rights (2005). Council of Europe – Oviedo Convention on Human Rights and Biomedicine (1997).

CSIC – Code of Good Scientific Practice of the Spanish National Research Council (2021). COPE – Committee on Publication Ethics: Guidelines on Good Publication Practice. Plan S – Principles and Implementation. cOAlition S.

University of Barcelona – Code of Good Practice in Research (2020).

Autonomous University of Madrid – Code of Ethics and Good Practice in Research

(2022).ICMJE – International Committee of Medical Journal Editors. Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals. University of Santiago de Compostela – Protocol for the Management of Authorship Disputes in Scientific Publications. University of Navarra – Guide to Sustainability in Research.CSIC – Procedure for the Management of Research Misconduct (2022).